ENVIRONMENTAL COMPLIANCE ASSESSMENT:

NORTH HARTLAND LAKE
North Hartland, Vermont

UNION VILLAGE DAM
East Thetford, Vermont

PRELIMINARY FINDINGS REPORT

U.S.Army Corps of Engineers
New England Division
424 Trapelo Road
Waltham, Massachusetts
02254-9149

US Army Corps of Engineers
New England Division

April 1993

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13. ABSTRACT (Maximum 200 words)

The environmental compliance assessment of North Hartland Lake in North Hartland, Vermont and Union Village Dam in East Thetford, Vermont was conducted as part of the U.S. Army Corps of Engineers Environmental Review Guide for Operations (ERGO) program. The findings at North Hartland Lake and Union Village Dam are as follows: There were four Major Deficiencies (Problems that require action and pose a threat to human health, safety or to the environment); fifteen Minor Deficiencies (Deficiency that is mostly administrative in nature which requires monitoring or planning for future mitigation); and twenty Management Practices (Items noted are not specifically covered by laws or regulations; however, they still require management attention). Overall, both facilities were well maintained as demonstrated by the lack of serious environmental deficiencies.

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CENED-OD-P 13 April 1993

MEMORANDUM THRU Chief, Natural Resource Management Branch

THRU Chief, Project Operations and Readiness Division

FOR Director of Operations

SUBJECT: Environmental Compliance Assessment of North Hartland Lake and Union Village Dam

1. Attached please find the Preliminary Findings Report of the Environmental Compliance Assessment conducted at North Hartland Lake and Union Village Dam, utilizing the Environmental Review Guide for Operations (ERGO).

2. This compliance assessment was prepared by the NED ERGO Team, Bruce Williams (NED-OD-P), Jim Law (NED-OD-P), Mike Penko (NED-PL-IA), Townsend Barker and Debbie Greason (NED-ED-WQ), Jim Peck (NED-SO), and Anne Laster (NED-RE).

3. Upon approval of the assessment, the Project Manager will be tasked with development of an action plan to schedule and prioritize resources to correct findings identified in the ERGO assessment. In order that resources are programmed and dedicated to correct these problems, recommend that remediation which can be performed as routine maintenance work be completed within the next 3 years, other work should be programmed in the budget process for completion within 5 years.

4. I recommend your approval for implementation.

R. B. WILLIAMS
ERGO Program Manager

Atch

CMT 2

1. Environmental Compliance Assessment of North Hartland Lake and Union Village Dam is approved X disapproved _____ for implementation as stated.

J. C. WONG
Director of Operations

Atch

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North Hartland Lake and Union Village Dam

Appendices

EXECUTIVE SUMMARY

An environmental compliance assessment of North Hartland Lake in North Hartland, Vermont, and Union Village Dam in East Thetford, Vermont, was conducted by an interdisciplinary team of Corps of Engineers environmental professionals on 4-5 November 1992.

The assessment was conducted as part of the U.S. Army Corps of Engineers Environmental Review Guide for Operations (ERGO) program. The ERGO program, developed by the U.S. Army establishes the use of environmental compliance assessments to ensure compliance with all applicable Federal, state, local, Department of Defense (DoD), and U.S. Army environmental laws and regulations.

An overall ERGO compliance assessment considers 12 major environmental compliance categories. For each category, Federal, state and local laws, DoD and U.S. Army Corps of Engineers regulations, and good management practices are reviewed. Overall both facilities were well maintained as demonstrated by the lack of serious environmental deficiencies.

The findings at North Hartland Lake (NHL) and Union Village Dam (UVD) are as follows:

SIGNIFICANT DEFICIENCIES: None (0)

(Problems that pose a direct & immediate threat to human health, safety or to the environment)

MAJOR DEFICIENCIES: Four (4)

(Problems that require action and pose a threat to human health, safety or to the environment)

MINOR DEFICIENCIES: Fifteen (15)

(Deficiency that is mostly administrative in nature. These problems require monitoring or planning for future mitigation)

MANAGEMENT PRACTICES: Twenty (20)

(Items noted are not specifically covered by laws or regulations; however, they still require management attention)

THE ERGO PROGRAM

The U.S. Army Corps of Engineers initiated the Environmental Review Guide for Operations (ERGO) program as a comprehensive self-evaluation and program management system for achieving, maintaining, and monitoring compliance with environmental laws and regulations at Corps of Engineers projects and facilities. Objectives of the ERGO program are to:

1) Enhance Corps of Engineers environmental compliance at federal, state, and local levels.
2) Improve Corps of Engineers environmental management.
3) Build supporting financial programs and budgets.
4) Assure supervisors their environmental programs are being implemented effectively in accordance with Corps of Engineers goals and objectives.

Periodic internal environmental compliance assessments have been deemed necessary. These evaluations are designed to assess environmental compliance and provide necessary feedback to supervisors for organizing, directing, and controlling environmental compliance and protection activities.

The Corps of Engineers ERGO program began with the creation of a steering committee. Arrangements were made with the U.S Army Construction Engineering Research Laboratory (USACERL) to compile all relevant federal, Department of Defense, Army, and Corps of Engineers regulations to produce the draft manual.

The ERGO manual of environmental compliance assessments was pilot tested at various facilities in the Nashville District in May 1990. The program was field tested at several projects during FY 1991 and the manual was distributed as a final draft.

In January 1991, the Chief, Operations, Construction and Readiness Division (USACE), directed division and district operations offices to formally designate Environmental Compliance Coordinators (ECC's). Because it is responsible for the majority of USACE facilities, Operations Directorate was tasked with the development and implementation of the ERGO program.

New England Division's ERGO program became operational in August 1991. An ERGO assessment team was established by the ECC in October 1991. The ERGO program manager scheduled 8 projects, including North Hartland Lake and Union Village Dam for completion of environmental compliance assessments in FY-93.

ASSESSMENT PROCEDURES

The ERGO assessment of North Hartland Lake and Union Village Dam was conducted by a 6 person team comprised of NED personnel. The team followed a three phase approach. The first phase was to obtain pre-assessment information concerning its on-site activities (see Appendix A) and research applicable federal, state and local environmental regulations. This culminated in the development of site/facility-specific categories.

The second phase involved the on-site portion of the assessment. This involved an interview of project, district and/or regional management and staff, followed by a facility tour to obtain a general overview of facility operations. Typically, the team member would interview project staff responsible for a particular functional area, visually inspect the operations, and verify that required written documentation was in place. When possible, all deficiencies were reported to facility personnel. The team concluded the on-site portion of the assessment by briefing the project manager and staff to apprise them of the review team's preliminary findings.

The third phase involves developing the draft report and developing an action plan for addressing outstanding deficiencies. The evaluation of North Hartland Lake and Union Village Dam followed the above procedures and covered the elements set forth in the 12 ERGO compliance categories.

The assessment was conducted in accordance with the best professional judgement of the ERGO team members. It should be understood that the assessment is based on observations taken over a short span of time relative to the period under review. Efforts were directed toward reviewing major facets of environmental performance in the period covered, and therefore, it is important to recognize that this assessment may not necessarily identify all potential problems.

Successful completion of the site-specific environmental evaluation of North Hartland Lake and Union Village Dam was dependant on complete disclosure of all information regarding the operation and maintenance activities at the project.

It should be noted that failure of a facility manager to provide complete or adequate information to the review team does not relieve the facility manager of the responsibility for compliance with environmental regulations.

ERGO PROGRAM OBJECTIVES

The Environmental Review Guide for Operations (ERGO) program is intended to serve as the primary tool for conducting environmental compliance evaluations at Corps of Engineer projects and facilities. The objectives of the program are to:

1) Compile applicable Federal and Engineering Regulations associated with Corps of Engineers operations and activities.

2) Synthesize environmental regulations, good management practices, and risk management issues into consistent and easy to use checklists.

3) Serve as a reference document for daily operations.

4) Serve as a standard for evaluation of environmental compliance.

DESCRIPTION OF REGULATORY COMPLIANCE

This section of the report presents a summary of findings in those categories that are governed by engineering regulations, engineering manuals, federal regulations, and state regulations. Non-regulatory items, which are referred to in this report as a management practices, are of a lower priority but require attention to correct.

Deficiencies noted in this evaluation will include the following information:

SIGNIFICANT DEFICIENCY:

A problem categorized as significant requires immediate attention. It poses, or has high likelihood of posing, a direct and immediate threat to human health, safety, the environment, or the installation mission.

MAJOR DEFICIENCY:

A problem categorized as major requires action, but not necessarily immediate action. It has the potential to result in a notice of violation from regulatory agencies. A major deficiency may pose a threat to human health, safety or the environment.

MINOR DEFICIENCY:

A minor deficiency is mostly administrative in nature, even though it might result in a notice of violation. It may also be a temporary or occasional instance of noncompliance.

MANAGEMENT PRACTICE:

A management practice is not considered a deficiency because it is not based on a specific regulatory requirement. Although items noted may not be specifically covered by regulation and are not assigned severity ratings, they still require management attention.

SUMMARY OF DEFICIENCIES
for
NORTH HARTLAND LAKE AND UNION VILLAGE DAM

COMPLIANCE CATEGORY — FINDINGS

	SIG.	MAJ.	MIN.	MGT.
Air Emissions				
Cultural and Historic Resources Management			1	
Hazardous Material Management		1	3	2
Hazardous Waste Management				2
Natural Resources Management			4	3
Pesticide Management				2
Petroleum Oil and Lubricant (POL) Management				2
Solid Waste Management		1	2	7
Special Pollutants Management (Radon,Asbestos, PCB's,Noise)		1	1	1
Underground Storage Tanks (UST) Management		1		1
Wastewater Management				
Water Quality Management			4	
Totals	0	4	15	**20**

AIR EMISSIONS MANAGEMENT

FINDING: There were no air emissions findings at North Hartland Lake or Union Village Dam.

CULTURAL AND HISTORIC RESOURCES MANAGEMENT

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: Project has reconnaissance level cultural resources survey. Additional studies are needed to evaluate certain historic sites and areas having potential to contain prehistoric sites.

CRITERIA: Corps facilities are required to locate, inventory, and nominate all properties that appear to qualify for listing on the National Register of Historic Places (16 USC 470, 36 CFR 800, ER 1130-2-438).

EFFECT: Project is not in full compliance with Section 106 of the National Historic Preservation Act. Cultural resources may be at risk.

SOLUTION: Conduct additional studies to determine if significant historic or prehistoric sites are present.

HAZARDOUS MATERIAL MANAGEMENT

FINDING: Management Practice (NHL,UVD)

CONDITION: Not all relevant regulations, directives, and guidance documents on hazardous materials are maintained at the facility. ER-200-2-2

CRITERIA: The following documents should be maintained and updated: 29 CFR 1910, 40 CFR 302, 49 CFR 172, 173, 178, 179, NEPA, ER 500-1-1, EM 385-1-1, applicable state/local regulations.

SOLUTION: Copies of all relevant materials will be distributed to the projects. Project Manager should maintain these materials in an organized and accessible manner and update as necessary.

COMMENTS: Knowledge of regulations required to assure safe and environmentally compatible handling of hazardous materials.

FINDING: Major Deficiency (NHL,UVD)

CONDITION: Facility does not have a written Oil and Hazardous Substance Contingency Plan for spill events. ER 1130-2-434

CRITERIA: Facility required to have plan which includes the following items: designated storage areas; designated individual for spill response; periodic drills; appropriate equipment to manage spill; emergency medical procedures, hazard control materials; emergency phone numbers; decontamination procedures.

SOLUTION: Plans are being developed for all projects. They will be included in the Federal Response Plan and the Flood Emergency Plan.

COMMENTS: Plan is necessary to insure that proper and timely action is taken during spill events to minimize environmental harm and insure public health and safety.

FINDING: Facility has MSDS sheets for each hazardous chemical stored on site as required by 40 CFR 1910.1200 (q)(1) and 1910.1200 (q)(8) Project Manager should continue to independently obtain MSDS's when purchasing chemicals in the future.

COMMENTS: Project Manager has done an excellent job of obtaining MSDS's to assure proper use of product and to mitigate harmful effects.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: VEC and Deweys Mills do not have MSDS sheets for each hazardous chemical stored on site.

CRITERIA: MSDS must be on file and accessible to workers on all shifts in the workplace for each hazardous material used or stored.

SOLUTION: Project Manager should assure that both facilities acquire and store MSDS in an orderly and highly visible fashion.

FINDING: Minor Deficiency (NHL)

CONDITION: Improper storage of flammable and combustible liquids in the Quechee Gorge State Park office building.

CRITERIA: Flammable and combustible liquids are required to be stored in flammable storage cabinets that meet specific Federal requirements. (29 CFR 1910.106(d)(5)(i)

SOLUTION: Real Estate Directorate should advise the lessee to obtain a flammable storage cabinet and properly store all materials.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION:
1. Inside flammable/combustible storage room does not meet certain specifications.
2. Storage room does not meet parameters for ventilation and containment specified in 29 CFR.1910.106(d)(4)

CRITERIA:

1) Fire resistent walls, sill or ramp separating adjacent rooms
2) Liquid tight floor/wall joints
3) Self closing fire doors
4) NEPA approved electrical wiring
5) Suitable capacity exhaust system
6) Clear isles. (29 CFR 1910.106 (d)(4))
7) A raised sill or ramp must be provided to adjacent rooms or buildings. Ventilation must provide for six changes of per hour.

SOLUTION: Project Manager should construct a liquid tight sill at entrance of sufficient height to contain 110 % of the capacity of the largest container. An exhaust fan of sufficient capacity should be installed to avoid buildup of chemical fumes.

COMMENTS:

1. Sill will prevent spilled materials from migrating to adjacent floor drain.
2. Present wind-driven ventilating hood exhaust system does not provide sufficient air exchange. Poor ventilation in the paint room creates an unhealthful environment for team members.
3. The Flammable and Combustible Liquids code states that the raised sills or ramps must be at least 4 inches (10 cm) in height to prevent flow of liquids to the adjoining area. (4-5.7.4 Sec.b.)

FINDING: Management Practice (NHL,UVD)

CONDITION: Facility has not coordinated with the local fire department concerning types of hazardous chemicals used at the facility, the areas used, and quantities used in a given operation.

CRITERIA: Review local coordination efforts with the local fire department to insure the department is aware of areas that are at high risk for chemical incidents.

EFFECT: Coordination may provide valuable information for fire dept. personnel regarding methods of extinguishing the blaze, maximizing personal safety, and notification/evacuation of adjoining areas.

SOLUTION: Project Manager should coordinate with fire department as noted above.

HAZARDOUS WASTE MANAGEMENT

FINDING: Management Practice (NHL,UVD)

CONDITION: Not all relevant regulation, directives, and guidance documents on hazardous wastes are maintained at the facility.

CRITERIA: The following documents should be maintained and updated: CFR 260-271, 40 CFR 372, 49 CFR 172-179, NEPA, state hazardous waste regulations, policy letters, ER 1130-2-434.

SOLUTION: Copies of all relevant materials are being compiled and will be distributed to the projects. Project Manager should maintain these materials in an organized and highly visible manner and update as required.

COMMENTS: Failure to maintain updated regulations and guidance could result in inappropriate handling of hazardous materials, possibly resulting in environmental or personal harm.

FINDING: Management Practice (NHL,UVD)

CONDITION: Projects lack a contingency plan for responding to discovery of potential HTW contaminated sites.

CRITERIA: A contingency plan outlining steps to follow upon discovery of potential HTW contaminated sites should be in place.

EFFECT: If proper steps are not taken to investigate potential HTW sites, project personnel or the public could be unnecessarily exposed to hazardous/toxic wastes.

SOLUTION: A contingency plan for investigating potential HTW contaminated sites should be developed. Project Manager should have training necessary to implement the plan.

NATURAL RESOURCES MANAGEMENT

FINDING: Minor Deficiency (NHL,UVD)

CONDITION 1: Master Plan for all both projects is outdated and does not reflect current development of natural or man-made resources at this project.

CRITERIA: ER 1130-2-435 section (10)(a) requires scheduling of revision of master plans within 5 years of date of the regulation, 30 December 1987.

SOLUTION: Program resources to update Master Plans within next 5 years.

CONDITION 2: The Fish and Wildlife Management Plans (Appendix D to the Master Plan) are outdated and do not emphasize the maintenance and restoration of habitat favorable to the production of indigenous fish and wildlife (5 year management plans are dated March 1982 and expired March 1987).

CRITERIA: Fish and wildlife plans must address the management of all indigenous species and be based upon the following:

- inventory of fish and game species
- inventory of endangered, threatened and other special interest plant or animal species
- survey of non-game wildlife other than endangered species
- Verify that fishing, hunting and trapping are authorized and controlled in conformance with Federal and state laws, local regulations and approved management plans (ER 1105-2-50, para. 2-1).

SOLUTION:

1. Update the current Fish and Wildlife Management plans to include and emphasize items mentioned above.
2. Assure that State F&W management plans are kept current and included into the Project plan.

CONDITION 3: The Forest Management Plans (Appendix B to the Master Plan) are outdated and do not adequately address the provisions for sustained production of timber and/or be compatible with multiple use resource management objectives. Five year management plans dated March 1982 expired March 1987.

CRITERIA: The Forest Management Plans must be current and include the following: (ER 1130-20400 para. 11(1)).

- volume inventories and conducted and kept current
- small volume (including firewood) sales are in accordance with regulations
- harvesting and treatment
- sustain yield
- improve vegetation conditions
- control pests
- improve watersheds
- improve wildlife habitat
- complement natural beauty values

SOLUTION: The Forest Plans need to be revised and updated to include provisions to address the resource management objectives listed above.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: Approved Project OMP (Operations Management Plan) has not been developed in coordination with the planning, real estate and safety elements of the project.

CRITERIA: All Corps facilities are required to develop and maintain a project operational managemental plan (OMP). (ER 1130-2-400 para.6 and para.9 through 11 Appendix B.)

SOLUTION:
1. Develop an OMP in accordance with ER 1130-2-400 and assure that it addresses all operational projects in the Master Plan (ER 1130-2-435).
2. Verify that the OMP has been approved by the Division Commander.
3. Verify that the OMP is updated as required.

FINDING: Management Practice (NHL,UVD)

CONDITION: Wetlands at the projects have not been identified.

CRITERIA: Wetlands should be identified and protected. All activities in the wetlands are to be conducted in accordance with state and federal regulations.

SOLUTION: A wetlands survey should be conducted to identify and delineate wetlands at both projects.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: A detailed field survey to determine if any federal or state listed threatened or endangered species occur in the project area is lacking. Without such a survey, the possibility that normal project operations may harm listed species cannot be ruled out.

CRITERIA: The Federal Endangered Species Act (16 USC 1536) prohibits actions which jeopardize the continued existence of threatened or endangered species, or destroy or adversely affect critical habitat of such species. Similar protection is provided by the Vermont Endangered Species Act.

SOLUTION: Program funds to conduct a survey of project area to determine if any additional rare threatened and endangered species are present. If any are found, management plans for the species should be developed and implemented.

FINDING: Management Practice (NHL,UVD)

CONDITION: The existing Environmental Assessment/FONSI for operation and maintenance activities does not accurately address current conditions at the projects and project impacts.

CRITERIA: An updated Environmental Assessment describing existing project conditions and impacts of project operation on natural and cultural resources should be available.

SOLUTION: Update Environmental Assessment/FONSI.

FINDING: Management Practice (UVD)

CONDITION: There are no minimum release rates established at North Hartland Dam during normal and/or low flow periods. The project storage requirements were designed such that all outflow be maintained equal to inflow during non-flood periods. The project was not designed to augment low flows. During flood periods, however, minimum releases are maintained between 10-15 cfs in an effort to support downstream aquatic life in the immediate proximity of the project without contributing significantly to the downstream flood condition. At this project, having only one discharge conduit, flows are reduced to enable a safe inspection of the conduit. Generally, some flow is passed downstream due to gate leakage and time of closure is less than one hour, thereby reducing downstream impacts.

CRITERIA: Periodic Inspections and routine maintenance require, at times, that discharge be reduced to allow safe access to the outlet conduit for short durations (less than one hour). These unavoidable flow conditions should be gradually made to minimize stranding of downstream aquatic life.

SOLUTION: 1. Planned (non-emergency) closure schedules for maintenance and inspection should be coordinated with U.S. Fish and Wildlife Service and the appropriate State Fish and Game agency to ensure that critical seasons which might impact aquatic life are avoided.
2. Periodic Inspection Project Manager should formally contact the agencies listed above 30 days in advance of scheduled maintenance and inspection to assure full review and comment.

COMMENT: North Hartland Lake is operating under a minimum release schedule developed in a Memorandum of Agreement (MOA) with Vermont Electric Cooperative Hydroelectric Generating (VEC) facility. The minimum releases are: 23 cfs from July through October and 40 cfs from November through June. The State of Vermont Fisheries Biologist participated in the development of the subject MOA.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: No survey of shoreline or land erosion at Projects is available.

CRITERIA: Measures shall be provided to control erosion damage to land (ER 1130-2-400 and EM 1110-1-400).

SOLUTION: Survey Project lands for erosion, and implement a shoreline and land erosion control plan.

COMMENT: VEC will be developing an inspection program in 1994 to comply with the MOA.

PESTICIDE MANAGEMENT

FINDING: Both North Hartland Lake and Union Village Dam are participating in the Division Pest Management Program. (ER 1130-2-413, para. 6.a.(2))

COMMENT: There is a 47 acre agricultural lease at Union Village Dam. The lessee does not use pesticides, therefore there is no documentation on file. According to Project Manager, neither North Hartland Lake nor Union Village Dam utilize any chemicals on the operation or maintenance of these facilities. No need for documentation to be inspected.

PETROLEUM OIL AND LUBRICANT (POL) MANAGEMENT

FINDING: Management Practice (NHL,UVD)

CONDITION: Facility has informal plan for recycling waste petroleum products, i.e., waste oil is brought to waste oil recovery facility.

EFFECT:
1. Formal management plan is needed to assure that all field staff are aware of good management practice.
2. Updated POL regulations are needed to assure that management of POL is consistent with good health, safety, and environmental practice.

CRITERIA: Management of Recoverable and Waste Liquid Petroleum plan has been prepared and adopted by Division Engineer.

SOLUTION: Although staff is treating recoverable waste products in accordance with good management practices, no formal plan is available. Formal plan is being prepared by Division office and will be distributed to all field offices.

FINDING: Management Practice (NHL,UVD)

CONDITION: The facility does not have ready access to a current file of applicable federal, Corps, and state/local POL regulations.

CRITERIA: The following regulations should be maintained: 29 CFR 1910, 33 CFR 153, 40 CFR 110, 112, 40 CFR 266, EM 385-1-1, EP 415-1-261, ER 500-1-1, appropriate state/local regulations.

SOLUTION: Copies of all relevant materials will be distributed to the projects. Project Manager should maintain these materials and update as necessary.

COMMENTS: Knowledge of regulations needed to assure proper handling of POL materials.

SOLID WASTE MANAGEMENT

FINDING: Major Deficiency (NHL)

CONDITION: Two burn areas are present at the project (Photograph 1) where flood debris is collected and burned. Both areas are located below the 100 year flood stage elevation. One is within 25-50 feet of North Hartland Lake. Material disposed at the dumps consists largely of wood wastes collected by log boom. The accumulation of substantial mounds of unburned debris over the years has modified this area to an extent that it now qualifies as a solid waste facility, site, or activity and is consequently regulated by the Vermont Solid Waste Management Rules.

CRITERIA: Operation of uncertified solid waste management sites is prohibited in Vermont (Section 6-302 of Vermont Solid Waste Management Rules). Disposal below 100 year flood stage elevation is prohibited (Section 6-502). The 1992 Federal Facilities Compliance Act requires federal agencies to fully comply with substantive and administrative requirements of state and local solid waste disposal regulations.

EFFECT: The dumps violate state law. Area is unsightly. [Note: Disposal sites for stumps, brush and untreated wood have "Categorical Certification" in Vermont provided that certain conditions are met (see Section 6-309 of Solid Waste Management Rules). Some of these conditions are not met, and site is therefore uncertified.]

SOLUTION: Inform Vermont Solid Waste Management Division of existing conditions at the project and work with them to develop an acceptable waste management plan.

FINDING: Management Practice (NHL)

CONDITION: Various items of questionable utility are stored at an outdoor storage area. These include an old "jungle gym" (Photograph 3), old lumber, concrete block, pipe, and the roof of a small shed.

CRITERIA: Excess material should be stored in an orderly manner. Items not likely to be of future use should be properly disposed.

SOLUTION: Assess need for items stored at the site. Items not likely to be of future use should be properly disposed. Scrap metal should be recycled.

FINDING: Management Practice (NHL)

CONDITION: A large number of tires left over from a CRREL research project and other items, including discarded 55 gallon barrels, were "stored" in an undesignated wooded area (Photograph 4).

CRITERIA: Excess materials should be stored in an orderly manner. Items not likely to be of future use should be properly disposed.

SOLUTION: Assess need for the tires and other items at the site. Properly dispose items not likely to be needed in the future. Remove any items that are still needed from woods and store in central storage area.

FINDING: Minor Deficiency (UVD)

CONDITION: An uncertified open dump is present at the project (Photograph 2). The site is located along the side of a steep embankment and is within 100 feet of a perennial steam (Avery Brook). Although material disposed at the dump consists primarily of wood wastes collected by log boom, miscellaneous metals items (cable, trash cans, culverts,), tires, and other items are also present.

CRITERIA: Operation of uncertified solid waste management sites is prohibited in Vermont (Section 6-302 of Vermont Solid Waste Management Rules). The 1992 Federal Facilities Compliance Act requires federal agencies to fully comply with substantive and administrative requirements of state and local solid waste disposal regulations.

EFFECT: The dump violates state law. Area is unsightly.

SOLUTION: Inform Vermont Solid Waste Management Division of existing conditions at the project. Develop a plan to clean up site and properly dispose of wastes generated at the project in the future.

FINDING: Management Practice (UVD).

CONDITION: Various items of questionable utility are stored near the open dump. These include creosote treated fence posts, old culverts, cable, fencing, guard rails, and concrete fence posts (Photographs 1 and 3).

CRITERIA: Excess material should be stored in an orderly manner. Items not likely to be of future use should be properly disposed.

SOLUTION: Assess need for items stored at the site. Items not likely to be of future use should be properly disposed. Scrap metal should be recycled.

FINDING: Management Practice (UVD)

CONDITION: Sediments are dredged each year from near the intake gates and stored for use as fill near open dump (Photograph 4). Material has never been tested for contaminants. Union Village reservoir sediments are known to be contaminated with metals originating from abandoned upstream copper mines.

CRITERIA: Measures should be taken to assure that environmental quality is maintained at Corps projects.

SOLUTION: It would be prudent to test material dredged from the river for metals on at least one occasion prior to disposal/use.

FINDING: Management Practice (UVD)

CONDITION: Glass bottles, rusted tin cans, and other debris are exposed at an old "farm dump" along the Ompompanoosuc.

CRITERIA: Measures should be taken to protect the environment and maintain public safety at Corps projects.

EFFECT: Broken bottles and rusted cans pose a safety hazard. Area is unsightly.

SOLUTION: Clean up or cap site. Coordinate plans with NED Division archaeologist and state resource agencies.

FINDING: Management Practice (UVD)

CONDITION: An old car body is present along Avery Brook (Photograph 6).

CRITERIA; Miscellaneous debris on project lands should be removed and properly disposed.

EFFECT: The old car body is unsightly. Rusted edges pose a safety hazard.

SOLUTION: Remove and properly dispose of the car body after consultation with NED archaeologist.

FINDING: Management Practice (NHL,UVD)

CONDITION: Project is not fully recycling glass, aluminum, and plastic.

CRITERIA: Solid wastes should be recycled to the maximum practical extent. Solid Waste Disposal Act of 1966 and Federal Facilities Compliance Act of 1992 requires full Federal compliance with state and local solid waste disposal laws.

EFFECT: Waste of resources and landfill space.

SOLUTION: Develop and institute recycling program.

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: Trash receptacles used in the recreation areas do not have covers.

CRITERIA: Trash receptacles should have functioning lids (40 CFR 243.200-1(a) and EM 385-1-1).

EFFECT: Unsanitary conditions.

SOLUTION: Provide trash receptacles with lids.

SPECIAL POLLUTANT - PCB'S

FINDING: Neither North Hartland Lake nor Union Village Dam have had a PCB spill, and do not have PCB transformers.

SPECIAL POLLUTANTS MANAGEMENT - RADON

FINDING: A complete radon survey was conducted at North Hartland Lake and Union Village Dam to assess indoor levels of radon in FY 91. All locations reported a level of radon gas lower than 4.0 picoCuries/liter of air. Results of testing are as follows:

LOCATION	pCi/l
North Hartland Lake	
Utility Building	.90
Control Tower	2.00
Union Village Dam	
Utility Building	2.20
Control Tower	2.00
Control Tower	2.00

CRITERIA: Areas sampled which test at 4.0 picoCuries/liter or lower require no further attention. Areas sampled which test at 4.0 picoCuries/liter or higher require long range testing and/or mitigation within 5 years. Areas which test at 20.0 picoCuries/liter or higher require immediate mitigation and retesting.

COMMENT: Radon survey program was conducted under the Army Radon Reduction Program (ARRP) administered by USAEHSC.

SPECIAL POLLUTANTS MANAGEMENT, NOISE

FINDING: Management Practice (NHL,UVD)

CONDITION: A log is not maintained to log complaints on noises produced by Corps of Engineer activities and operations.

CRITERIA:
1) A single point of contact be identified to address noise complaint.
2) This POC shall keep a written log of complaints on noises produced by Corps of Engineer activities and operations.

SOLUTION:
1) Establish a Noise Complaint Log
2) Identify POC for both projects

FINDING: Minor Deficiency (NHL,UVD)

CONDITION: A noise survey has not been conducted to identify potential noise hazards and to determine adequate personnel protection.

CRITERIA: Personnel shall not be exposed to 85 dB(a) or 140 dB impulse where engineering or administrative controls are not instituted. (EM 385-1-40, Occupational Health, EM 385-1-1, Safety Manual)

SOLUTION: Project Manager should contact the Safety and Occupational Health Office to arrange to conduct noise survey - Institute controls where needed.

EFFECT:
1) Gate House Generators should be evaluated.
2) Heavy Equipment should be evaluated.

SPECIAL POLLUTANTS MANAGEMENT - ASBESTOS

FINDING: Major Deficiency (NHL,UVD)

CONDITION: An asbestos survey of Corps facilities has not been conducted.

CRITERIA: All Corps facilities are required to conduct an asbestos survey of all their facilities. (ER 200-2-2)

SOLUTION: Conduct an asbestos survey at all facilities. In areas where asbestos containing material (ACM) is suspected, limited personal activity should take place until survey is completed and results are known.

COMMENT: Safety and Occupational Health office is scheduling asbestos surveys of all projects.

UNDERGROUND STORAGE TANKS (UST's) MANAGEMENT

FINDING: Management Practice (NHL,UVD)

CONDITION: Regulations pertaining to UST operation, maintenance & closure were not available at the facility.

CRITERIA: The following regulations should be maintained and updated at the project: ER 1130-2-434, 40 CFR 112.7, 40 CFR 280, appropriate state and local regulations.

EFFECT: Failure to maintain updated regulations could result in deficient monitoring/upgrading of USTs, increasing the likelihood of leakage.

SOLUTION: Copies of all relevant materials will be distributed to the projects. Project Manager should maintain these materials in an organized and easily assessable manner and updated as required.

FINDING: Potential Major Deficiency (NHL)

CONDITION: It is unknown if the facility is abiding, or is required to abide, by state UST regulations; specifically the 750-gallon UST may require a permit from the Vermont Department of Environmental Conservation

CRITERIA: Section 8-302, subchapter 3 of the Vermont regulations requires owners of USTs (other than residential USTs or USTs used strictly for heating) to obtain a permit from the Vermont Dept of Environmental Conservation. (ER 200-2-2, para.20)

SOLUTION: Tank is scheduled for replacement in FY-94. Office of Counsel is making determination of whether or not the Corps is required to obtain Vermont DEC UST permits. The Project Manager will be advised as to what course of action to take based on the results of this legal decision.

COMMENT: Tank is used for both heating and the standby generator. The latter use may give rise to the need for the Corps to secure permits.

WASTEWATER MANAGEMENT PROGRAM (NHL)

Corps operated facilities at North Hartland Lake include the project office and recreation area. Facilities operated by leaseholders include Quechee State Park, and two hydroelectric dams - Dewey's Mills dam and the Vermont Electric Corporation dam. Wastewater is generated at the project office and recreation area, and at various locations in Quechee State Park. No sanitary wastewater is generated at the hydropower projects.

Disposal of this wastewater is accomplished on-site through independent treatment systems. Wastewater at the project office is discharged to a 700-gallon septic tank and on to a leach field. This system was installed in 1958, and was last pumped in 1989. Prior to pumping, the pipes had become clogged with sediment and roots from willow trees growing above the leach field. These trees were removed and pipes cleared as part of the 1989 contract. The project office has garage bays with floor drains, which also discharge to the septic system. Although the new Vermont Land Use Act (Act 250) prohibits vehicle maintenance floor drains in new facilities, these drains are not currently regulated in existing buildings. Since regulation is probable in the future, project personnel should keep abreast of forthcoming requirements.

Wastewater from the recreation area is disposed of in a 3,000-gallon septic tank and raised leach field installed in 1986. This tank was also pumped out 3 years ago under the same contract as above.

No physical inspection of the septic tanks was conducted during the ERGO site visit, but project personnel indicated they have had no problems with either system, aside from the clogged pipes at the project office.

Generation of wastewater at Quechee State Park is from the ranger quarters, two restrooms, and a sanitary dump station. Each different facility has an independent septic system resulting in four for the park. A 500-gallon septic tank and leach field installed in 1973 are located at the ranger quarters on Dewey's Mill Road. Restrooms 1 and 2, located in the campground, have two independent septic tank and leach field systems. Restroom 1 has a 2,000-gallon tank installed in 1973, while restroom 2 has a 3,000-gallon tank installed in 1989. The sanitary dump station is used by campers to dispose of trailer septic waste. This station discharges to its own 750 gallon septic tank and leach field which also was installed in 1973. The tanks are pumped every 3 years. The tank at the rangers quarters and restroom 1 were last pumped in 1991. The dump station tank was last pumped in 1989, and restroom 2 tank has not been pumped yet.

The storm drain system at North Hartland Lake directs runoff from the access roads and parking areas into the reservoir and Ottauquechee River downstream from the dam. These storm sewers do not receive any industrial, sanitary, or agricultural waste or runoff, and therefore, do not require a permit under the NPDES program.

POINT SOURCE DISCHARGES (NHL)

There are no point source discharges or discharges to public wastewater treatment facilities at North Hartland Lake.

The NPDES permit requirement under 32 CFR 650.66 does not extend to discharges from separate storm sewers except where storm sewers receive industrial, municipal, and agricultural wastes or runoff, or where storm runoff has been identified by EPA's Regional Administrator, the State Water Pollution Control Agency or an Interstate Agency as a significant contributor of pollution.

WASTEWATER MANAGEMENT PROGRAM (UVD)

Wastewater is generated at the project office and recreation area. Disposal of this wastewater is accomplished onsite through two independent treatment systems, one for each of the above areas. Wastewater at the project office is discharged to a 1,000-gallon septic tank, and then to a 6-foot diameter by 6-foot deep leaching chamber. This system was installed in 1948. Wastewater from the recreation area is disposed of in a 1,000-gallon septic tank and leach field, which was installed in 1979. An abandoned septic system is located near the project office which used to serve the operator quarters. These quarters have been removed from the area, and the septic system is no longer in use.

A site visit was made by the ERGO inspection team on 5 November 1992. Although no physical inspection of the septic tanks was conducted during this visit, project personnel indicated they have had no problems with the systems. Sludge is pumped from the tanks when necessary. Pumping frequency for each system is about every 3 years, or sometimes longer.

The storm drain system at Union Village Dam consists of drainage ditches, culverts, and sewer lines which direct runoff from the access roads and parking areas into the reservoir and Ompompanoosuc River downstream from the dam. Since these storm sewers do not receive any industrial, sanitary, or agricultural waste or runoff, they do not require a permit under the NPDES program.

POINT SOURCE DISCHARGES (UVD)

There are no point source discharges or discharges to public wastewater treatment facilities at Union Village Dam.

The NPDES permit requirement under 32 CFR 650.66 does not extend to discharges from separate storm sewers except where storm sewers receive industrial, municipal, and agricultural wastes or runoff, or where storm runoff has been identified by EPA's Regional Administrator, the State Water Pollution Control Agency or an Interstate Agency as a significant contributor of pollution.

WATER QUALITY MANAGEMENT

POTABLE WATER PROGRAM (NHL)

Drinking water is supplied to the project office, comfort station, and recreation area at North Hartland Lake by one well, located about 1,500 feet southeast of the project office along the access road. It was installed in 1958, is approximately 225 feet deep, and rated at about 8 gpm. Even though this well is operated throughout the year, it is designated a transient noncommunity well since it serves more than 25 people but not the same population for at least 60 days a year.

The New England Division Environmental Laboratory monitors water quality for the well at North Hartland Lake. NED uses this laboratory to sample and test drinking water at all of its wells. This lab is not certified by the State of Vermont, but is certified by the Commonwealth of Massachusetts. This is in compliance with Vermont regulations, since the State presently requires out-of-state laboratories monitoring public water supply wells in Vermont to be certified in the state where the laboratory is located. Monitoring results should be forwarded to the Vermont Water Supply Division for compliance. Required monitoring includes yearly sampling of fecal coliform and nitrates/nitrites. The Corps-maintained well at North Hartland is currently sampled at least quarterly by the NED lab during the months in operation.

There is only one water supply well at Quechee State Park, which is 425 feet deep and pumps at a rate of about 20 gpm. This well is located in the campground and supplies drinking water to the campground's restrooms and to the ranger quarters. The ranger quarters original drinking water supply was a nearby spring, but this has been abandoned as water is now piped in from the campground.

No water supply wells are located at either of the privately operated hydropower facilities in the North Hartland Lake reservoir area. Deficiencies are as follows:

FINDING: Minor Deficiency (NHL)

CONDITION: The well at North Hartland Lake's project office is a public water supply which is being operated without operator certification.

CRITERIA: Under 40 CFR 142.10 (adopted under provisions of the Safe Drinking Water Act - Public Law 93-523), a State has primary enforcement responsibility for public water systems. The Vermont Department of Environmental Conservation, Water Supply Division requires public water supply well operators to be certified in accordance with the Vermont Water Supply Rule, Chapter 21-12.

SOLUTION: Apply to the Water Supply Division for water system operator certification (without examination). Point of contact is Robert Millham, Compliance Coordinator, whose phone number is (802) 244- 1562. Real Estate Directorate should also ensure the Department of Forests, Parks and Recreation complies with this criteria for the well at Quechee State Park.

FINDING: Minor Deficiency (NHL)

CONDITION: Results of routine monitoring of potable water sources at North Hartland Lake are to be reported to the State within 24 hours.

CRITERIA: Prompt reporting of potable water monitoring results is required under provisions of the Safe Drinking Water Act - Public Law 93-523.

SOLUTION: 1. Once water supply operator certification is obtained, sampling and testing results of routine monitoring performed by the NED Environmental Laboratory shall be reported to the State within a 24-hour period. Reporting requirements include one fecal coliform and one nitrate/nitrite sample a year. Include the operator certification identification number assigned by the State. Point of contact is Robert Millham at the Water Supply Division who can be reached at (802) 244- 1562.
2. Real Estate Directorate should also ensure that the Department of Forests, Parks and Recreation complies with this criteria for the well at Quechee State Park

BEACH WATER QUALITY MONITORING PROGRAM (NHL)

Waters at North Hartland Lake are designated as class B, which are suitable for drinking water supply after disinfection, fishing, swimming, and all other water uses. The Corps monitors water quality at one unofficial swimming area located just upstream from the dam near the boat launch at North Hartland Lake.NED monitors this swimming area in accordance with water quality standards for class B fishable/swimmable waters based on E. coli coliform.

RESERVOIR WATER QUALITY PROGRAM (NHL)

The NED reservoir water quality management program at North Hartland Lake has multiple goals. Its primary purpose is to protect public health and safety, but additional goals include meeting State water quality standards, maintaining water quality suitable for all project purposes, and understanding the effects of project operations on water quality. NED's Water Quality Team meets as needed during the year to determine needs at each project and carry out the annual program.

Although water quality management is not a defined purpose at any project operated and maintained by NED, the Corps has a strong interest in water quality. Executive Order 11752, "Prevention, Control, and Abatement of Environmental Pollution at Federal Facilities," 19 December 1973, makes it a stated national policy that the Federal Government, in the design, construction, management, operation, and maintenance of its facilities, shall provide leadership in the nationwide effort to protect and enhance the quality of air, water, and land resources. Section 102b of the Federal Water Pollution Control Act Amendments of 1972 places responsibility with EPA for determination of the need for, the value of, and the impact of storage for water quality control in any reservoir project not in a construction status as of 18 October 1972. The responsibility for water quality at our projects, however, clearly rests with the Corps since it is an integral part of water control management activities (reference ER 1130-2-334, dated April 1986, and ER 1130-2-415, dated October 1976).

POTABLE WATER PROGRAM (UVD)

Two wells are used for water supply at Union Village Dam. Well 1, located southeast of the project office, was installed in 1948 to a depth of about 168 feet. Well 2, drilled more recently in 1979, is located about 80 feet north of the recreation area restroom building, and is believed to be about 120 feet deep. Well 1 is considered a private water system by the State of Vermont, since it serves less than 25 people. The other, however, is designated a transient noncommunity well since it serves more than 25 people but not the same population, for at least 60 days a year.

The New England Division Environmental Laboratory monitors water quality for each well at Union Village Dam. NED uses this laboratory to sample and test drinking water at all of its wells. This lab is not certified by the State of Vermont, but is certified by the Commonwealth of Massachusetts. This is in compliance with Vermont regulations, since the State presently requires out-of-state laboratories monitoring public water supply wells in Vermont, be certified in the state where the laboratory is located. Monitoring results should be forwarded to the Vermont Department of Environmental Conservation, Water Supply Division for compliance. Required monitoring includes yearly sampling of fecal coliform and nitrates/nitrites. Both wells at Union Village Dam are sampled at least quarterly by the NED lab during the months in operation. Deficiencies are as follows:

FINDING: Minor Deficiency (UVD)

CONDITION: Well 2 at Union Village Dam is a public water supply which is being operated without operator certification.

CRITERIA: Under 40 CFR 142.10 (adopted under provisions of the Safe Drinking Water Act -Public Law 93- 523), a State has primary enforcement responsibility for public water systems. Vermont Department of Environmental Conservation, Water Supply Division requires public water supply well operators to be certified in accordance with the Vermont Water Supply Rule, Chapter 21-12.

SOLUTION: Apply to the Water Supply Division for water system operator certification (without examination). Point of contact is Robert Millham, Compliance Coordinator, whose phone number is (802) 244-1562.

FINDING: Minor Deficiency (UVD)

CONDITION: Results of routine monitoring of potable water sources at Union Village Dam are to be reported to the State within 24 hours.

CRITERIA: Prompt reporting of potable water monitoring results is required under provisions of the Safe Drinking Water Act - Public Law 93-523.

SOLUTION: Once water supply operator certification is obtained, sampling and testing results of routine monitoring performed by the NED Environmental Laboratory shall be reported to the State within a 24-hour period. Reporting requirements include one fecal coliform and one nitrate/nitrite sample a year. Include the operator certification identification number assigned by the State. Point of contact is Robert Millham at the Water Supply Division who can be reached at (802) 244-1562.

BEACH WATER QUALITY MONITORING PROGRAM (UVD)

Waters at Union Village Dam are designated as class B, which are suitable for drinking water supply after disinfection, fishing, swimming, and all other water uses.

The Corps monitors water quality at three unofficial swimming areas in the reservoir area at Union Village Dam.

NED monitors these swimming areas at Union Village Dam in accordance with water quality standards for class B fishable/swimmable waters based on E. coli coliform.

RESERVOIR WATER QUALITY PROGRAM (UVD)

The NED reservoir water quality management program at Union Village Dam has multiple goals. Its primary purpose is to protect public health and safety, but additional goals include meeting State water quality standards, maintaining water quality suitable for all project purposes, and understanding the effects of project operations on water quality. NED's Water Quality Team meets as needed during the year to determine needs at each project and carry out the annual program.

Although water quality management is not a defined purpose at any project operated and maintained by NED, the Corps has a strong interest in water quality. Executive Order 11752, "Prevention, Control, and Abatement of Environmental Pollution at Federal Facilities," 19 December 1973, makes it a stated national policy that the Federal Government, in the design, construction, management, operation, and maintenance of its facilities, shall provide leadership in the nationwide effort to protect and enhance the quality of air, water, and land resources. Section 102b of the Federal Water Pollution Control Act Amendments of 1972 places responsibility with EPA for determination of the need for, the value of, and the impact of storage for water quality control in any reservoir project not in a construction status as of 18 October 1972. The responsibility for water quality at our projects, however, clearly rests with the Corps since it is an integral part of water control management activities (reference ER 1130-2-334, dated April 1986, and ER 1130-2-415, dated October 1976).

NEW ENGLAND DIVISION
ERGO TEAM

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Operations Directorate
Project Operations and Readiness Division
Environmental Compliance Coordinator - NED
Member, NED's Water Quality Team

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The ERGO team appreciates the efforts of the following individuals who participated in the pre-assessment and field inspection and/or in the research and evaluation of environmental compliance guidance:

North Hartland Lake and Union Village Dam

Mark Rosenthal- Project Manager
Gary Wheeler - Park Ranger
Gordie Parker - Park Ranger
Roxanne Barbeau - Park Ranger

Upper Connecticut River Basin Office

Mike Curran - Basin Manager

Appendix A

ERGO

Environmental Review Guide for Operations

PRE-ASSESSMENT ENVIRONMENTAL MANAGEMENT QUESTIONNAIRE

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment.

Name of Facility: _____

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 1, Air Emissions Management:		
1. Does facility operate a fuel burner (central steam plant, or hot water or hot water steam boiler)?	✓	If **YES** see ERGO items 1-4 through 1-15.
2. Does facility operate an incinerator?	N/A	If **YES** see ERGO items 1-16 through 1-18.
3. Does facility dispense, store, or transfer gasoline?	✓	If **YES** see ERGO items 1-19 through 1-23.
4. Does facility have volatile organic compounds (VOCs)(generally, but not exclusively, found in solvents)?		If **YES** see ERGO items 1-24 through 1-28.
5. Does facility have fugitive emissions from volatile hazardous air pollutant (VHAP) equipment?	?	If **YES** see ERGO items 1-29 through 1-35.
6. Does facility use VOC-based solvent degreasers?	?	If **YES** see ERGO item 1-36.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 2, Cultural and Historic Resources Management:		
1. Does the facility have any properties under its jurisdiction?		If YES see ERGO items 2-4 through 2-10.
2. Does the facility have cultural resources? List the facility's cultural resources below:		If YES see ERGO items 2-11 through 2-14.
a. Are the facility's master plan or operational management plan (OMP) public documents?		If YES see ERGO item 2-13.
3. Does the facility have an operational project?		If YES see ERGO item 2-15.
4. Does the facility have any Native American graves or artifacts, or have any been discovered during an operation?		If YES see ERGO item 2-16.
5. Does the facility have an archeological or historical collection?		If YES see ERGO items 2-17 through 2-28.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 3, Hazardous Materials Management:		
1. Does the facility store any hazardous materials?		If **YES** see ERGO items 3-5 through 3-8.
2. Have there been any releases of hazardous substances at the facility?		If **YES** see ERGO items 3-9 through 3-11.
3. Are there any extremely hazardous substances at the facility?		If **YES** see ERGO item 3-12 and 3-13.
4. Does the facility: Have extremely hazardous substances in excess of 500 lbs or the threshold planning quantity (see appendix III-1); have hazardous chemicals in excess of 10,000 lbs; or fall under Standard Industrial Classification Codes 20 to 39?		If **YES** see ERGO item 3-12 and 3-13.
5. Does the facility store compressed gases, flammable/combustibles, or acids?		If **YES** see ERGO items 3-14 through 3-27.
6. Does the facility transport hazardous material, or offer such materials for transport?		If **YES** see ERGO items 3-28 through 3-31.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 4, Hazardous Waste Management:		
1. Is facility a generator of hazardous waste?		
	___	If **YES** see ERGO items 4-8 through 4-15.
a. Is facility a small quantity generator?		
	___	If **YES** see ERGO items 4-16 through 4-18.
b. Is facility a very small quantity generator?		
	YES	If **YES** see ERGO item 4-19.

Complete this section before proceeding.

Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F)
- or Corrosivity (pH <2 or >12.5)
- or TCLP Toxicity (for As,Ba,Cd,Cr,Pb,Hg,Se,Ag, and selected pesticides.
- or Reactive. (or CN)

The following are hazardous wastes that may typically be found at a Corps facility:

	CHECK IF USED AT THIS FACILITY	Vol Gen/mo lb.	Vol Gen/mo Kg.	Vol Accum lb.	Vol Accum Kg.
___	Solvents	___	___	32	___
___	Liquid Paint	___	___	[illegible]	___
___	Paint stripper, remover, or thinner	___	___	[illegible]	___
___	Spray paint booth air filters	___	___	___	___
___	Pesticides, Insecticides, Herbicides, etc.	___	___	___	___
___	NBC filters and test kits	___	___	___	___
___	DS2 (diethlene triamine)	___	___	___	___
___	STB (super topical bleach)	___	___	___	___

___	Ordnance, ammunition, explosives & residues	___	___	___	___
___	Battery acid & Caustics (in unserviceable batteries)	___	___	___	___
___	Some pharmaceuticals	___	___	___	___
___	POL Tank Farm fuel system filters	___	___	___	___
___	De-icing solution	___	___	___	___
___	Printing ink, ink solvents and cleaners	___	___	___	___
___	Absorbent materials and soil contaminated with hazardous waste	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
	TOTAL	___	___	___	___

* e.g., Trichlorethane, Methylene, chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon Tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Break-free in liquid form, Mineral Spirits, Xylene

USEPA Generator Designation: ___ Unregulated ___ Small Qty ___ Large Qty

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
2. Does facility export/import hazardous waste from/to the United States?	___	If **YES** see ERGO items 4-23 through 4-31.
3. Does facility transport hazardous waste?	___	If **YES** see ERGO items 4-32 through 4-37.
4. Does facility have a treatment, storage, or disposal facility (TSDF)?	___	If **YES** see ERGO items 4-38 through 4-74.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does the TSD facility receive waste from a foreign source?		If YES see ERGO item 4-42.
b. Does facility receive waste from off-site sources?		If YES see ERGO items 4-46 and 4-47.
c. Does facility handle ignitable, reactive, or incompatible wastes?	YES	If YES see ERGO item 4-65 and 4-67.
5. Does facility have hazardous waste containers?		If YES see ERGO items 4-75 through 4-86.
6. Does facility store hazardous wastes in tanks?		If YES see ERGO items 4-87 through 4-101.
7. Does facility use surface impoundment as a means of treatment, storage, or disposal of hazardous wastes?		If YES see ERGO items 4-102 through 4-110.
8. Does facility have waste piles?		If YES see ERGO items 4-111 through 4-118.
9. Does facility have land treatment of hazardous waste?		If YES see ERGO items 4-119 through 4-126.
10. Does facility have hazardous waste in landfills?		If YES see ERGO items 4-127 through 4-137.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
11. Does facility incinerate hazardous waste?		If **YES** see ERGO items 4-138 through 4-147.
12. Does facility dispose of hazardous waste in miscellaneous units?		If **YES** see ERGO items 4-148 and 4-149.
13. Does facility have thermal treatment facilities?		If **YES** see ERGO items 4-150 through 4-152.
14. Does facility have chemical, physical, or biological treatment facilities?		If **YES** see ERGO items 4-153 through 4-155.
15. Does facility have restricted wastes?		If **YES** see ERGO items 4-156 through 4-168.
SECTION 5, Natural Resources Management:		
1. Does facility have any construction projects?		If **YES** see ERGO item 5-4.
2. Does facility have land management responsibilities?		If **YES** see ERGO items 5-7 and 5-8.
3. Does facility have floodplains or wetlands?		If **YES** see ERGO item 5-9.
4. Does facility contain a shoreline?		If **YES** see ERGO item 5-12.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
5. Does facility have endangered or threatened species?	____	If **YES** see ERGO items 5-13 and 5-14.

SECTION 6, Pesticides Management:

1. Do facility personnel engage in the application of pesticides?	NO	If **YES** see ERGO items 6-7 through 6-16.
2. Does facility store, mix, or formulate pesticides?	NO	If **YES** see ERGO items 6-17 through 6-28.
a. Does facility store/use pesticides classified highly toxic or moderately toxic (bearing DANGER, POISON, WARNING, or the skull and crossbones symbol)?	____	If **YES** see ERGO items 6-20 through 6-27.
3. Does facility dispose of pesticides?	NO	If **YES** see ERGO items 6-29 through 6-33.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 7, Petroleum, Oil and Lubricant (POL) Management:		
1. Does the facility store, transport, or dispense petroleum products?		If **YES** see ERGO items 7-5 through 7-12.
2. Have there been any discharges of oil at the facility?		If **YES** see ERGO items 7-13 through 7-14.
3. Does the facility have any bulk storage tanks over 660 gallons?		If **YES,** see ERGO item 7-16.
4. Does the facility use dikes as a means of containment for petroleum storage tanks?		If **YES** see ERGO items 7-17 and 7-18.
5. Does the facility have any pipelines?		If **YES** see ERGO items 7-20 through 7-22.
6. Does the facility sell used oil?		If **YES,** see ERGO item 7-23.
SECTION 8, Solid Waste Management:		
1. Does the facility collect or store solid waste on site?		If **YES,** see ERGO items 8-4 through 8-12.
2. All Corps facilities must should recycle and reduce solid waste.		See ERGO item 8-13.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does facility have over 100 office workers?		If YES see ERGO item 8-14.
b. Do more than 500 families reside at the facility?		If YES see ERGO item 8-15.
c. Does the facility generate waste corrugated containers?		If YES see ERGO item 8-16.
3. Does facility have land disposal on site?		If YES see ERGO items 8-17 through 8-31.
a. Does facility dispose of water treatment plant sludges?		If YES see ERGO 8-18.
b. Does facility dispose of incinerator or air pollution control residues?		If YES see ERGO item 8-19.
c. Does the facility accept special wastes?		If YES see ERGO item 8-21.
4. Does the facility have a closure site?		If YES, see ERGO items 8-32 and 8-33.
5. Does the facility have a new landfill site?		If YES, see ERGO items 8-34 and 8-35.
6. Does facility have a thermal processing facility?		If YES see ERGO items 8-36 through 8-49.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
7. Does the facility utilize resource recovery facilities?		
	No	If **YES** see ERGO items 8-50 and 8-51.
a. If the facility does **NOT** utilize resource recovery facilities, a report must be filed with the Administrator explaining the decision not to utilize.		
	Yes	See ERGO item 8-50.
SECTION 9, Special Pollutants Management:		
1. Does facility have PCBs of any kind?		
	No	If **YES**, see ERGO items 9-4 through 9-11.
a. Does facility have a PCB waste landfill?		
	No	If **YES**, see ERGO item 9-10.
b. Does facility have PCB storage or disposal facilities?		
	No	If **YES**, see ERGO item 9-11.
2. Does facility have PCB transformers?		
	No	If **YES**, see ERGO items 9-12 through 9-18.
3. Has facility had a PCB spill?		
	No	If **YES** see ERGO item 9-19.
4. Does facility have PCB Items (PCB-contaminated heat transfer or hydraulic systems, electromagnets, switches, voltage regulators, capacitors, circuit breakers, reclosers, or cables)?		
	No	If **YES** see ERGO items 9-20 through 9-23.
5. Does facility use PCBs in research?		
	No	If **YES** see ERGO item 9-24.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
6. Does facility store PCBs?		
	___	If **YES** see ERGO items 9-25 through 9-29.
7. Does facility transport PCBs or PCB Items?		
	___	If **YES** see ERGO items 9-30 and 9-31.
8. Does facility dispose of PCBs or PCB Items?		
	___	If **YES** see ERGO items 9-32 through 9-41.
9. Does facility demolish, renovate, or strip components from structures containing friable asbestos?		
	___	If **YES** see ERGO items 9-42 through 9-52.
10. Does facility dispose, or transport for disposal, asbestos or asbestos-containing waste?		
	___	If **YES** see ERGO items 9-53 through 9-57.
11. Is facility located in an area with a potential radon problem?		
	___	If **YES** see ERGO items 9-58 through 9-60.
12. Does facility have any possible sources of noise pollution, or have a noise hazardous area?		
	___	If **YES** see ERGO items 9-61 through 9-68.
SECTION 10, Underground Storage Tanks (USTs) Management:		
1. Does facility have organizational fuel tanks?		
	___	If **YES** see ERGO item 10-5.
2. Has facility repaired, or is it planning to repair, a UST?		
	___	If **YES** see ERGO item 10-10.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have hazardous waste USTs?		If YES see ERGO item 10-19.
4. Does facility have a deferred UST?		If YES see ERGO item 10-20.
5. Does facility have a metallic UST?		If YES see ERGO items 10-23 and 10-35.
6. Does facility have newly-installed USTs (i.e., after May, 1986)?		If YES see ERGO items 10-24 through 10-27.
7. Have facility USTs undergone a change of service, or closure?		If YES see ERGO items 10-28 through 10-34.
8. Does facility have substandard USTs?		If YES see ERGO item 10-35.
SECTION 11, Wastewater Management:		
1. Does facility have a floating plant?		If YES see ERGO item 11-4.
2. Does facility have any point source discharges, or does facility have domestic sewage treatment plants?		If YES see ERGO items 11-5 through 11-8.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have storm water discharge not covered by a NPDES permit?	N	If YES see ERGO item 11-9.
4. Does facility discharge to a privately-owned treatment works (POTW)?	C	If YES see ERGO items 11-10 through 11-12.
5. Does facility have any personnel engaged in the operation of water pollution control devices?	N	If YES see ERGO item 11-13.
6. Does facility have a wastewater treatment plant?	N	If YES see ERGO items 11-14 and 11-15.
7. Does facility have electroplating operations?	N	If YES see ERGO item 11-16 through 11-27.
8. Does facility conduct or issue permits for dredging operations?	N	If YES see ERGO items 11-28 through 11-35.
SECTION 12, Water Quality Management:		
1. Does facility perform contaminant monitoring on its water supply?	N	If YES see ERGO items 12-18 through 12-43.
2. Is facility located near a sole source aquifer?	? C	If YES see ERGO item 12-44.

ERGO

Environmental Review Guide for Operations

PRE-ASSESSMENT ENVIRONMENTAL MANAGEMENT QUESTIONNAIRE

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment.

Name of Facility:_____

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 1, Air Emissions Management:		
1. Does facility operate a fuel burner (central steam plant, or hot water or hot water steam boiler)?		If YES see ERGO items 1-4 through 1-15.
2. Does facility operate an incinerator?		If YES see ERGO items 1-16 through 1-18.
3. Does facility dispense, store, or transfer gasoline?		If YES see ERGO items 1-19 through 1-23.
4. Does facility have volatile organic compounds (VOCs)(generally, but not exclusively, found in solvents)?		If YES see ERGO items 1-24 through 1-28.
5. Does facility have fugitive emissions from volatile hazardous air pollutant (VHAP) equipment?		If YES see ERGO items 1-29 through 1-35.
6. Does facility use VOC-based solvent degreasers?		If YES see ERGO item 1-36.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 2, Cultural and Historic Resources Management:		
1. Does the facility have any properties under its jurisdiction?	____	If YES see ERGO items 2-4 through 2-10.
2. Does the facility have cultural resources? List the facility's cultural resources below:	____	If YES see ERGO items 2-11 through 2-14.
_____		
_____		
_____		
a. Are the facility's master plan or operational management plan (OMP) public documents?	____	If YES see ERGO item 2-13.
3. Does the facility have an operational project?	____	If YES see ERGO item 2-15.
4. Does the facility have any Native American graves or artifacts, or have any been discovered during an operation?	____	If YES see ERGO item 2-16.
5. Does the facility have an archeological or historical collection?	____	If YES see ERGO items 2-17 through 2-28.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 3, Hazardous Materials Management:		
1. Does the facility store any hazardous materials?	___/___	If YES see ERGO items 3-5 through 3-8.
2. Have there been any releases of hazardous substances at the facility?	___/___	If YES see ERGO items 3-9 through 3-11.
3. Are there any extremely hazardous substances at the facility?	___/___	If YES see ERGO item 3-12 and 3-13.
4. Does the facility: Have extremely hazardous substances in excess of 500 lbs or the threshold planning quantity (see appendix III-1); have hazardous chemicals in excess of 10,000 lbs; or fall under Standard Industrial Classification Codes 20 to 39?	___/___	If YES see ERGO item 3-12 and 3-13.
5. Does the facility store compressed gases, flammable/combustibles, or acids?	___/___	If YES see ERGO items 3-14 through 3-27.
6. Does the facility transport hazardous material, or offer such materials for transport?	___/___	If YES see ERGO items 3-28 through 3-31.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE

SECTION 4, Hazardous Waste Management:

1. Is facility a generator of hazardous waste? ____ If YES see ERGO items 4-8 through 4-15.

a. Is facility a small quantity generator? ____ If YES see ERGO items 4-16 through 4-18.

b. Is facility a very small quantity generator? ____ If YES see ERGO item 4-19.

Complete this section before proceeding.

Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F)
- or Corrosivity (pH <2 or >12.5)
- or TCLP Toxicity (for As,Ba,Cd,Cr,Pb,Hg,Se,Ag, and selected pesticides.
- or Reactive. (or CN)

The following are hazardous wastes that may typically be found at a Corps facility:

	CHECK IF USED AT THIS FACILITY	Vol Gen/mo lb.	Vol Gen/mo Kg.	Vol Accum lb.	Vol Accum Kg.
___	* Solvents	___	___	___	___
___	Liquid Paint	___	___	___	___
___	Paint stripper, remover, or thinner	___	___	___	___
___	Spray paint booth air filters	___	___	___	___
___	Pesticides, Insecticides, Herbicides, etc.	___	___	___	___
___	NBC filters and test kits	___	___	___	___
___	DS2 (diethlene triamine)	___	___	___	___
___	STB (super topical bleach)	___	___	___	___

___	Ordnance, ammunition, explosives & residues	___	___	___	___
___	Battery acid & Caustics (in unserviceable batteries)	___	___	___	___
___	Some pharmaceuticals	___	___	___	___
___	POL Tank Farm fuel system filters	___	___	___	___
___	De-icing solution	___	___	___	___
___	Printing ink, ink solvents and cleaners	___	___	___	___
___	Absorbent materials and soil contaminated with hazardous waste	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
	TOTAL	___	___	___	___

* e.g., Trichlorethane, Methylene, chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon Tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Break-free in liquid form, Mineral Spirits, Xylene

USEPA Generator Designation: ___ Unregulated ___ Small Qty ___ Large Qty

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
2. Does facility export/import hazardous waste from/to the United States?	___	If YES see ERGO items 4-23 through 4-31.
3. Does facility transport hazardous waste?	___	If YES see ERGO items 4-32 through 4-37.
4. Does facility have a treatment, storage, or disposal facility (TSDF)?	___	If YES see ERGO items 4-38 through 4-74.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does the TSD facility receive waste from a foreign source?	____	If YES see ERGO item 4-42.
b. Does facility receive waste from off-site sources?	____	If YES see ERGO items 4-46 and 4-47.
c. Does facility handle ignitable, reactive, or incompatible wastes?	____	If YES see ERGO item 4-65 and 4-67.
5. Does facility have hazardous waste containers?	____	If YES see ERGO items 4-75 through 4-86.
6. Does facility store hazardous wastes in tanks?	____	If YES see ERGO items 4-87 through 4-101.
7. Does facility use surface impoundment as a means of treatment, storage, or disposal of hazardous wastes?	____	If YES see ERGO items 4-102 through 4-110.
8. Does facility have waste piles?	____	If YES see ERGO items 4-111 through 4-118.
9. Does facility have land treatment of hazardous waste?	____	If YES see ERGO items 4-119 through 4-126.
10. Does facility have hazardous waste in landfills?	____	If YES see ERGO items 4-127 through 4-137.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
11. Does facility incinerate hazardous waste?		If YES see ERGO items 4-138 through 4-147.
12. Does facility dispose of hazardous waste in miscellaneous units?		If YES see ERGO items 4-148 and 4-149.
13. Does facility have thermal treatment facilities?		If YES see ERGO items 4-150 through 4-152.
14. Does facility have chemical, physical, or biological treatment facilities?		If YES see ERGO items 4-153 through 4-155.
15. Does facility have restricted wastes?		If YES see ERGO items 4-156 through 4-168.

SECTION 5, Natural Resources Management:

1. Does facility have any construction projects?		If YES see ERGO item 5-4.
2. Does facility have land management responsibilities?		If YES see ERGO items 5-7 and 5-8.
3. Does facility have floodplains or wetlands?		If YES see ERGO item 5-9.
4. Does facility contain a shoreline?		If YES see ERGO item 5-12.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
5. Does facility have endangered or threatened species?		If YES see ERGO items 5-13 and 5-14.
SECTION 6, Pesticides Management:		
1. Do facility personnel engage in the application of pesticides?		If YES see ERGO items 6-7 through 6-16.
2. Does facility store, mix, or formulate pesticides?		If YES see ERGO items 6-17 through 6-28.
a. Does facility store/use pesticides classified highly toxic or moderately toxic (bearing DANGER, POISON, WARNING, or the skull and crossbones symbol)?		If YES see ERGO items 6-20 through 6-27.
3. Does facility dispose of pesticides?		If YES see ERGO items 6-29 through 6-33.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 7, Petroleum, Oil and Lubricant (POL) Management:		
1. Does the facility store, transport, or dispense petroleum products?	____	If **YES** see ERGO items 7-5 through 7-12.
2. Have there been any discharges of oil at the facility?	____	If **YES** see ERGO items 7-13 through 7-14.
3. Does the facility have any bulk storage tanks over 660 gallons?	____	If **YES,** see ERGO item 7-16.
4. Does the facility use dikes as a means of containment for petroleum storage tanks?	____	If **YES** see ERGO items 7-17 and 7-18.
5. Does the facility have any pipelines?	YES	If **YES** see ERGO items 7-20 through 7-22.
6. Does the facility sell used oil?	____	If **YES,** see ERGO item 7-23.
SECTION 8, Solid Waste Management:		
1. Does the facility collect or store solid waste on site?	____	If **YES,** see ERGO items 8-4 through 8-12.
2. All Corps facilities must should recycle and reduce solid waste.	____	See ERGO item 8-13.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does facility have over 100 office workers?	____	If YES see ERGO item 8-14.
b. Do more than 500 families reside at the facility?	____	If YES see ERGO item 8-15.
c. Does the facility generate waste corrugated containers?	____	If YES see ERGO item 8-16.
3. Does facility have land disposal on site?	____	If YES see ERGO items 8-17 through 8-31.
a. Does facility dispose of water treatment plant sludges?	____	If YES see ERGO 8-18.
b. Does facility dispose of incinerator or air pollution control residues?	____	If YES see ERGO item 8-19.
c. Does the facility accept special wastes?	____	If YES see ERGO item 8-21.
4. Does the facility have a closure site?	____	If YES, see ERGO items 8-32 and 8-33.
5. Does the facility have a new landfill site?	____	If YES, see ERGO items 8-34 and 8-35.
6. Does facility have a thermal processing facility?	____	If YES see ERGO items 8-36 through 8-49.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
7. Does the facility utilize resource recovery facilities?	____	If YES see ERGO items 8-50 and 8-51.
a. If the facility does **NOT** utilize resource recovery facilities, a report must be filed with the Administrator explaining the decision not to utilize.	____	See ERGO item 8-50.
SECTION 9, Special Pollutants Management:		
1. Does facility have PCBs of any kind?	____	If YES, see ERGO items 9-4 through 9-11.
a. Does facility have a PCB waste landfill?	____	If YES, see ERGO item 9-10.
b. Does facility have PCB storage or disposal facilities?	____	If YES, see ERGO item 9-11.
2. Does facility have PCB transformers?	____	If YES, see ERGO items 9-12 through 9-18.
3. Has facility had a PCB spill?	____	If YES see ERGO item 9-19.
4. Does facility have PCB Items (PCB-contaminated heat transfer or hydraulic systems, electromagnets, switches, voltage regulators, capacitors, circuit breakers, reclosers, or cables)?	____	If YES see ERGO items 9-20 through 9-23.
5. Does facility use PCBs in research?	____	If YES see ERGO item 9-24.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
6. Does facility store PCBs?	/	If YES see ERGO items 9-25 through 9-29.
7. Does facility transport PCBs or PCB Items?		If YES see ERGO items 9-30 and 9-31.
8. Does facility dispose of PCBs or PCB Items?		If YES see ERGO items 9-32 through 9-41.
9. Does facility demolish, renovate, or strip components from structures containing friable asbestos?		If YES see ERGO items 9-42 through 9-52.
10. Does facility dispose, or transport for disposal, asbestos or asbestos-containing waste?		If YES see ERGO items 9-53 through 9-57.
11. Is facility located in an area with a potential radon problem?	N/A	If YES see ERGO items 9-58 through 9-60.
12. Does facility have any possible sources of noise pollution, or have a noise hazardous area?	N/A	If YES see ERGO items 9-61 through 9-68.

SECTION 10, Underground Storage Tanks (USTs) Management:

1. Does facility have organizational fuel tanks?	N/A	If YES see ERGO item 10-5.
2. Has facility repaired, or is it planning to repair, a UST?		If YES see ERGO item 10-10.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have hazardous waste USTs?		If YES see ERGO item 10-19.
4. Does facility have a deferred UST?		If YES see ERGO item 10-20.
5. Does facility have a metallic UST?		If YES see ERGO items 10-23 and 10-35.
6. Does facility have newly-installed USTs (i.e., after May, 1986)?		If YES see ERGO items 10-24 through 10-27.
7. Have facility USTs undergone a change of service, or closure?		If YES see ERGO items 10-28 through 10-34.
8. Does facility have substandard USTs?		If YES see ERGO item 10-35.
SECTION 11, Wastewater Management:		
1. Does facility have a floating plant?		If YES see ERGO item 11-4.
2. Does facility have any point source discharges, or does facility have domestic sewage treatment plants?	N/C	If YES see ERGO items 11-5 through 11-8.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have storm water discharge not covered by a NPDES permit?		If **YES** see ERGO item 11-9.
4. Does facility discharge to a privately-owned treatment works (POTW)?		If **YES** see ERGO items 11-10 through 11-12.
5. Does facility have any personnel engaged in the operation of water pollution control devices?		If **YES** see ERGO item 11-13.
6. Does facility have a wastewater treatment plant?		If **YES** see ERGO items 11-14 and 11-15.
7. Does facility have electroplating operations?		If **YES** see ERGO item 11-16 through 11-27.
8. Does facility conduct or issue permits for dredging operations?		If **YES** see ERGO items 11-28 through 11-35.
SECTION 12, Water Quality Management:		
1. Does facility perform contaminant monitoring on its water supply?		If **YES** see ERGO items 12-18 through 12-43.
2. Is facility located near a sole source aquifer?		If **YES** see ERGO item 12-44.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility use surface water or ground water under the influence of surface water for drinking water?	N	If **YES** see ERGO items 12-45 through 48.
4. Does facility have recreational potable water sources?	N	If **YES** see ERGO item 12-49.
5. Does facility have swimming beaches?	N	If **YES** see ERGO item 12-50.
6. Does facility have swimming pools?	N	If **YES** see ERGO item 12-51.
7. Do facility's waters support watercraft?	N	If **YES** see ERGO items 12-52.
8. Is facility authorized to provide emergency drinking water?	N	If **YES** see ERGO item 12-53.

Signature of individual completing this form: _____

Date completed: _____

ERGO

Environmental Review Guide for Operations

PRE-ASSESSMENT ENVIRONMENTAL MANAGEMENT QUESTIONNAIRE

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment.

Name of Facility: _____

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 1, Air Emissions Management:		
1. Does facility operate a fuel burner (central steam plant, or hot water or hot water steam boiler)?		If YES see ERGO items 1-4 through 1-15.
2. Does facility operate an incinerator?		If YES see ERGO items 1-16 through 1-18.
3. Does facility dispense, store, or transfer gasoline?		If YES see ERGO items 1-19 through 1-23.
4. Does facility have volatile organic compounds (VOCs)(generally, but not exclusively, found in solvents)?		If YES see ERGO items 1-24 through 1-28.
5. Does facility have fugitive emissions from volatile hazardous air pollutant (VHAP) equipment?		If YES see ERGO items 1-29 through 1-35.
6. Does facility use VOC-based solvent degreasers?		If YES see ERGO item 1-36.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 2, Cultural and Historic Resources Management:		
1. Does the facility have any properties under its jurisdiction?	\	If YES see ERGO items 2-4 through 2-10.
2. Does the facility have cultural resources? List the facility's cultural resources below:		If YES see ERGO items 2-11 through 2-14.
H		
a. Are the facility's master plan or operational management plan (OMP) public documents?		If YES see ERGO item 2-13.
3. Does the facility have an operational project?		If YES see ERGO item 2-15.
4. Does the facility have any Native American graves or artifacts, or have any been discovered during an operation?		If YES see ERGO item 2-16.
5. Does the facility have an archeological or historical collection?	/	If YES see ERGO items 2-17 through 2-28.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility use surface water or ground water under the influence of surface water for drinking water?	NO	If **YES** see ERGO items 12-45 through 48.
4. Does facility have recreational potable water sources?		If **YES** see ERGO item 12-49.
5. Does facility have swimming beaches?		If **YES** see ERGO item 12-50.
6. Does facility have swimming pools?		If **YES** see ERGO item 12-51.
7. Do facility's waters support watercraft?		If **YES** see ERGO items 12-52.
8. Is facility authorized to provide emergency drinking water?	NO	If **YES** see ERGO item 12-53.

Signature of individual completing this form: _____

Date completed: _____

ERGO

Environmental Review Guide for Operations

PRE-ASSESSMENT ENVIRONMENTAL MANAGEMENT QUESTIONNAIRE

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment.

Name of Facility: _____

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 1, Air Emissions Management:		
1. Does facility operate a fuel burner (central steam plant, or hot water or hot water steam boiler)? Gas heat.	Yes	If YES see ERGO items 1-4 through 1-15.
2. Does facility operate an incinerator?	NO	If YES see ERGO items 1-16 through 1-18.
3. Does facility dispense, store, or transfer gasoline?	No	If YES see ERGO items 1-19 through 1-23.
4. Does facility have volatile organic compounds (VOCs)(generally, but not exclusively, found in solvents)?	NO	If YES see ERGO items 1-24 through 1-28.
5. Does facility have fugitive emissions from volatile hazardous air pollutant (VHAP) equipment?	No	If YES see ERGO items 1-29 through 1-35.
6. Does facility use VOC-based solvent degreasers?	No	If YES see ERGO item 1-36.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 2, Cultural and Historic Resources Management:		
1. Does the facility have any properties under its jurisdiction?	NO	If YES see ERGO items 2-4 through 2-10.
2. Does the facility have cultural resources? List the facility's cultural resources below: See NHPA Assessment	No	If YES see ERGO items 2-11 through 2-14.
a. Are the facility's master plan or operational management plan (OMP) public documents?	N/A	If YES see ERGO item 2-13.
3. Does the facility have an operational project?	Yes	If YES see ERGO item 2-15.
4. Does the facility have any Native American graves or artifacts, or have any been discovered during an operation?	No	If YES see ERGO item 2-16.
5. Does the facility have an archeological or historical collection?	NO	If YES see ERGO items 2-17 through 2-28.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 3, Hazardous Materials Management:		
1. Does the facility store any hazardous materials? Hydraulic Oil	Yes	If YES see ERGO items 3-5 through 3-8.
2. Have there been any releases of hazardous substances at the facility?	NO	If YES see ERGO items 3-9 through 3-11.
3. Are there any extremely hazardous substances at the facility?	No	If YES see ERGO item 3-12 and 3-13.
4. Does the facility: Have extremely hazardous substances in excess of 500 lbs or the threshold planning quantity (see appendix III-1); have hazardous chemicals in excess of 10,000 lbs; or fall under Standard Industrial Classification Codes 20 to 39?	NO	If YES see ERGO item 3-12 and 3-13.
5. Does the facility store compressed gases, flammable/combustibles, or acids?	No	If YES see ERGO items 3-14 through 3-27.
6. Does the facility transport hazardous material, or offer such materials for transport? Recycle used Oil	Yes	If YES see ERGO items 3-28 through 3-31.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE

SECTION 4, Hazardous Waste Management:

1. Is facility a generator of hazardous waste?

All motor (used oil) is recycled. Yes — If **YES** see ERGO items 4-8 through 4-15.

a. Is facility a small quantity generator? — If **YES** see ERGO items 4-16 through 4-18.

b. Is facility a very small quantity generator?

Paints — Yes — If **YES** see ERGO item 4-19.

Complete this section before proceeding.

Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F)
- or Corrosivity (pH <2 or >12.5)
- or TCLP Toxicity (for As,Ba,Cd,Cr,Pb,Hg,Se,Ag, and selected pesticides.
- or Reactive. (or CN)

The following are hazardous wastes that may typically be found at a Corps facility:

	CHECK IF USED AT THIS FACILITY	Vol Gen/mo lb.	Vol Gen/mo Kg.	Vol Accum lb.	Vol Accum Kg.
___	* Solvents	___	___	___	___
___	Liquid Paint	___	___	___	___
___	Paint stripper, remover, or thinner	___	___	___	___
___	Spray paint booth air filters	___	___	___	___
___	Pesticides, Insecticides, Herbicides, etc.	___	___	___	___
___	NBC filters and test kits	___	___	___	___
___	DS2 (diethlene triamine)	___	___	___	___
___	STB (super topical bleach)	___	___	___	___

___	Ordnance, ammunition, explosives & residues	___	___	___	___
___	Battery acid & Caustics (in unserviceable batteries)	___	___	___	___
___	Some pharmaceuticals	___	___	___	___
___	POL Tank Farm fuel system filters	___	___	___	___
___	De-icing solution	___	___	___	___
___	Printing ink, ink solvents and cleaners	___	___	___	___
___	Absorbent materials and soil contaminated with hazardous waste	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
	TOTAL	___	___	___	___

* e.g., Trichlorethane, Methylene, chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon Tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Break-free in liquid form, Mineral Spirits, Xylene

USEPA Generator Designation: ___ Unregulated ___ Small Qty ___ Large Qty

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
2. Does facility export/import hazardous waste from/to the United States?	No	If YES see ERGO items 4-23 through 4-31.
3. Does facility transport hazardous waste?	No	If YES see ERGO items 4-32 through 4-37.
4. Does facility have a treatment, storage, or disposal facility (TSDF)?	No	If YES see ERGO items 4-38 through 4-74.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does the TSD facility receive waste from a foreign source?	NO	If YES see ERGO item 4-42.
b. Does facility receive waste from off-site sources?	NO	If YES see ERGO items 4-46 and 4-47.
c. Does facility handle ignitable, reactive, or incompatible wastes?	NO	If YES see ERGO item 4-65 and 4-67.
5. Does facility have hazardous waste containers?	NO	If YES see ERGO items 4-75 through 4-86.
6. Does facility store hazardous wastes in tanks?	NO	If YES see ERGO items 4-87 through 4-101.
7. Does facility use surface impoundment as a means of treatment, storage, or disposal of hazardous wastes?	NO	If YES see ERGO items 4-102 through 4-110.
8. Does facility have waste piles?	NO	If YES see ERGO items 4-111 through 4-118.
9. Does facility have land treatment of hazardous waste?	NO	If YES see ERGO items 4-119 through 4-126.
10. Does facility have hazardous waste in landfills?	NO	If YES see ERGO items 4-127 through 4-137.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
11. Does facility incinerate hazardous waste?	No	If YES see ERGO items 4-138 through 4-147.
12. Does facility dispose of hazardous waste in miscellaneous units?	No	If YES see ERGO items 4-148 and 4-149.
13. Does facility have thermal treatment facilities?	No	If YES see ERGO items 4-150 through 4-152.
14. Does facility have chemical, physical, or biological treatment facilities?	No	If YES see ERGO items 4-153 through 4-155.
15. Does facility have restricted wastes?	No	If YES see ERGO items 4-156 through 4-168.

SECTION 5, Natural Resources Management:

1. Does facility have any construction projects?	Yes	If YES see ERGO item 5-4.
2. Does facility have land management responsibilities? Low flow requirements Mountain Grounds	Yes	If YES see ERGO items 5-7 and 5-8.
3. Does facility have floodplains or wetlands?	Yes	If YES see ERGO item 5-9.
4. Does facility contain a shoreline?	No	If YES see ERGO item 5-12.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
5. Does facility have endangered or threatened species?	7	If YES see ERGO items 5-13 and 5-14.

SECTION 6, Pesticides Management:

1. Do facility personnel engage in the application of pesticides?	NO	If YES see ERGO items 6-7 through 6-16.
2. Does facility store, mix, or formulate pesticides?	NO	If YES see ERGO items 6-17 through 6-28.
a. Does facility store/use pesticides classified highly toxic or moderately toxic (bearing DANGER, POISON, WARNING, or the skull and crossbones symbol)?	NO	If YES see ERGO items 6-20 through 6-27.
3. Does facility dispose of pesticides?	NO	If YES see ERGO items 6-29 through 6-33.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 7, Petroleum, Oil and Lubricant (POL) Management:		
1. Does the facility store, transport, or dispense petroleum products? Hydraulic Oil	Yes	If YES see ERGO items 7-5 through 7-12.
2. Have there been any discharges of oil at the facility?	No	If YES see ERGO items 7-13 through 7-14.
3. Does the facility have any bulk storage tanks over 660 gallons?	No	If YES, see ERGO item 7-16.
4. Does the facility use dikes as a means of containment for petroleum storage tanks?	No	If YES see ERGO items 7-17 and 7-18.
5. Does the facility have any pipelines? Transfer Oil line for powerhouse	Yes	If YES see ERGO items 7-20 through 7-22.
6. Does the facility sell used oil?	NO	If YES, see ERGO item 7-23.
SECTION 8, Solid Waste Management:		
1. Does the facility collect or store solid waste on site?	NO	If YES, see ERGO items 8-4 through 8-12.
2. All Corps facilities must should recycle and reduce solid waste.	✓	See ERGO item 8-13.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does facility have over 100 office workers?	No	If YES see ERGO item 8-14.
b. Do more than 500 families reside at the facility?	No	If YES see ERGO item 8-15.
c. Does the facility generate waste corrugated containers?	No	If YES see ERGO item 8-16.
3. Does facility have land disposal on site?	No	If YES see ERGO items 8-17 through 8-31.
a. Does facility dispose of water treatment plant sludges?	No	If YES see ERGO 8-18.
b. Does facility dispose of incinerator or air pollution control residues?	No	If YES see ERGO item 8-19.
c. Does the facility accept special wastes?	No	If YES see ERGO item 8-21.
4. Does the facility have a closure site?	No	If YES, see ERGO items 8-32 and 8-33.
5. Does the facility have a new landfill site?	No	If YES, see ERGO items 8-34 and 8-35.
6. Does facility have a thermal processing facility?	No	If YES see ERGO items 8-36 through 8-49.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
7. Does the facility utilize resource recovery facilities? Sends Used Hydraulic Oil To Be Recycled.	Yes	If YES see ERGO items 8-50 and 8-51.
a. If the facility does **NOT** utilize resource recovery facilities, a report must be filed with the Administrator explaining the decision not to utilize.	—	See ERGO item 8-50.
SECTION 9, Special Pollutants Management:		
1. Does facility have PCBs of any kind?	No	If YES, see ERGO items 9-4 through 9-11.
a. Does facility have a PCB waste landfill?	No	If YES, see ERGO item 9-10.
b. Does facility have PCB storage or disposal facilities?	No	If YES, see ERGO item 9-11.
2. Does facility have PCB transformers?	No	If YES, see ERGO items 9-12 through 9-18.
3. Has facility had a PCB spill?	No	If YES see ERGO item 9-19.
4. Does facility have PCB Items (PCB-contaminated heat transfer or hydraulic systems, electromagnets, switches, voltage regulators, capacitors, circuit breakers, reclosers, or cables)?	No	If YES see ERGO items 9-20 through 9-23.
5. Does facility use PCBs in research?	No	If YES see ERGO item 9-24.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
6. Does facility store PCBs?	No	If YES see ERGO items 9-25 through 9-29.
7. Does facility transport PCBs or PCB Items?	No	If YES see ERGO items 9-30 and 9-31.
8. Does facility dispose of PCBs or PCB Items?	No	If YES see ERGO items 9-32 through 9-41.
9. Does facility demolish, renovate, or strip components from structures containing friable asbestos?	No	If YES see ERGO items 9-42 through 9-52.
10. Does facility dispose, or transport for disposal, asbestos or asbestos-containing waste?	No	If YES see ERGO items 9-53 through 9-57.
11. Is facility located in an area with a potential radon problem?	Yes	If YES see ERGO items 9-58 through 9-60.
12. Does facility have any possible sources of noise pollution, or have a noise hazardous area? Generating Room of Plant.	Possibly	If YES see ERGO items 9-61 through 9-68.

SECTION 10, Underground Storage Tanks (USTs) Management:

1. Does facility have organizational fuel tanks?	No	If YES see ERGO item 10-5.
2. Has facility repaired, or is it planning to repair, a UST?	No	If YES see ERGO item 10-10.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have hazardous waste USTs?	No	If YES see ERGO item 10-19.
4. Does facility have a deferred UST?	No	If YES see ERGO item 10-20.
5. Does facility have a metallic UST?	No	If YES see ERGO items 10-23 and 10-35.
6. Does facility have newly-installed USTs (i.e., after May, 1986)?	No	If YES see ERGO items 10-24 through 10-27.
7. Have facility USTs undergone a change of service, or closure?	No	If YES see ERGO items 10-28 through 10-34.
8. Does facility have substandard USTs?	No	If YES see ERGO item 10-35.
SECTION 11, Wastewater Management:		
1. Does facility have a floating plant?	No	If YES see ERGO item 11-4.
2. Does facility have any point source discharges, or does facility have domestic sewage treatment plants?	No	If YES see ERGO items 11-5 through 11-8.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have storm water discharge not covered by a NPDES permit?	No	If YES see ERGO item 11-9.
4. Does facility discharge to a privately-owned treatment works (POTW)?	No	If YES see ERGO items 11-10 through 11-12.
5. Does facility have any personnel engaged in the operation of water pollution control devices?	No	If YES see ERGO item 11-13.
6. Does facility have a wastewater treatment plant?	No	If YES see ERGO items 11-14 and 11-15.
7. Does facility have electroplating operations?	No	If YES see ERGO item 11-16 through 11-27.
8. Does facility conduct or issue permits for dredging operations? 1992 dredging infront of dam.	Yes	If YES see ERGO items 11-28 through 11-35.

SECTION 12, Water Quality Management:

1. Does facility perform contaminant monitoring on its water supply? No drinking water supply.	No	If YES see ERGO items 12-18 through 12-43.
2. Is facility located near a sole source aquifer?	?	If YES see ERGO item 12-44.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility use surface water or ground water under the influence of surface water for drinking water?	No	If YES see ERGO items 12-45 through 48.
4. Does facility have recreational potable water sources?	No	If YES see ERGO item 12-49.
5. Does facility have swimming beaches?	No	If YES see ERGO item 12-50.
6. Does facility have swimming pools?	No	If YES see ERGO item 12-51.
7. Do facility's waters support watercraft? Canoeists	Yes	If YES see ERGO items 12-52.
8. Is facility authorized to provide emergency drinking water?	No	If YES see ERGO item 12-53.

Signature of individual completing this form:_____

Date completed: 10/9/92

ERGO

Environmental Review Guide for Operations

PRE-ASSESSMENT ENVIRONMENTAL MANAGEMENT QUESTIONNAIRE

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment.

Name of Facility: _____

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 1, Air Emissions Management:		
1. Does facility operate a fuel burner (central steam plant, or hot water or hot water steam boiler)?		If YES see ERGO items 1-4 through 1-15.
2. Does facility operate an incinerator?		If YES see ERGO items 1-16 through 1-18.
3. Does facility dispense, store, or transfer gasoline?		If YES see ERGO items 1-19 through 1-23.
4. Does facility have volatile organic compounds (VOCs)(generally, but not exclusively, found in solvents)?		If YES see ERGO items 1-24 through 1-28.
5. Does facility have fugitive emissions from volatile hazardous air pollutant (VHAP) equipment?		If YES see ERGO items 1-29 through 1-35.
6. Does facility use VOC-based solvent degreasers?		If YES see ERGO item 1-36.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 2, Cultural and Historic Resources Management:		
1. Does the facility have any properties under its jurisdiction?	____	If YES see ERGO items 2-4 through 2-10.
2. Does the facility have cultural resources? List the facility's cultural resources below:	____	If YES see ERGO items 2-11 through 2-14.
_____		
_____		
_____		
a. Are the facility's master plan or operational management plan (OMP) public documents?	____	If YES see ERGO item 2-13.
3. Does the facility have an operational project?	____	If YES see ERGO item 2-15.
4. Does the facility have any Native American graves or artifacts, or have any been discovered during an operation?	____	If YES see ERGO item 2-16.
5. Does the facility have an archeological or historical collection?	____	If YES see ERGO items 2-17 through 2-28.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 3, Hazardous Materials Management:		
1. Does the facility store any hazardous materials?	Yes	If YES see ERGO items 3-5 through 3-8.
2. Have there been any releases of hazardous substances at the facility?	No	If YES see ERGO items 3-9 through 3-11.
3. Are there any extremely hazardous substances at the facility?	No	If YES see ERGO item 3-12 and 3-13.
4. Does the facility: Have extremely hazardous substances in excess of 500 lbs or the threshold planning quantity (see appendix III-1); have hazardous chemicals in excess of 10,000 lbs; or fall under Standard Industrial Classification Codes 20 to 39?	No	If YES see ERGO item 3-12 and 3-13.
5. Does the facility store compressed gases, flammable/combustibles, or acids?	Yes	If YES see ERGO items 3-14 through 3-27.
6. Does the facility transport hazardous material, or offer such materials for transport?	Yes	If YES see ERGO items 3-28 through 3-31.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 4, Hazardous Waste Management:		
1. Is facility a generator of hazardous waste?	____	If YES see ERGO items 4-8 through 4-15.
a. Is facility a small quantity generator?	____	If YES see ERGO items 4-16 through 4-18.
b. Is facility a very small quantity generator?	____	If YES see ERGO item 4-19.

Complete this section before proceeding.

Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F)
- or Corrosivity (pH <2 or >12.5)
- or TCLP Toxicity (for As,Ba,Cd,Cr,Pb,Hg,Se,Ag, and selected pesticides.
- or Reactive. (or CN)

The following are hazardous wastes that may typically be found at a Corps facility:

	CHECK IF USED AT THIS FACILITY	Vol Gen/mo lb.	Vol Gen/mo Kg.	Vol Accum lb.	Vol Accum Kg.
___	* Solvents	___	___	___	___
___	Liquid Paint	___	___	___	___
___	Paint stripper, remover, or thinner	___	___	___	___
___	Spray paint booth air filters	___	___	___	___
___	Pesticides, Insecticides, Herbicides, etc.	___	___	___	___
___	NBC filters and test kits	___	___	___	___
___	DS2 (diethlene triamine)	___	___	___	___
___	STB (super topical bleach)	___	___	___	___

___	Ordnance, ammunition, explosives & residues	___	___	___	___
___	Battery acid & Caustics (in unserviceable batteries)	___	___	___	___
___	Some pharmaceuticals	___	___	___	___
___	POL Tank Farm fuel system filters	___	___	___	___
___	De-icing solution	___	___	___	___
___	Printing ink, ink solvents and cleaners	___	___	___	___
___	Absorbent materials and soil contaminated with hazardous waste	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
	TOTAL	___	___	___	___

* e.g., Trichlorethane, Methylene, chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon Tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Break-free in liquid form, Mineral Spirits, Xylene

USEPA Generator Designation: ___ Unregulated ___ Small Qty ___ Large Qty

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
2. Does facility export/import hazardous waste from/to the United States?	___	If YES see ERGO items 4-23 through 4-31.
3. Does facility transport hazardous waste?	___	If YES see ERGO items 4-32 through 4-37.
4. Does facility have a treatment, storage, or disposal facility (TSDF)?	___	If YES see ERGO items 4-38 through 4-74.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does the TSD facility receive waste from a foreign source?		
	_____	If YES see ERGO item 4-42.
b. Does facility receive waste from off-site sources?		
	_____	If YES see ERGO items 4-46 and 4-47.
c. Does facility handle ignitable, reactive, or incompatible wastes?		
	_____	If YES see ERGO item 4-65 and 4-67.
5. Does facility have hazardous waste containers?		
	_____	If YES see ERGO items 4-75 through 4-86.
6. Does facility store hazardous wastes in tanks?		
	_____	If YES see ERGO items 4-87 through 4-101.
7. Does facility use surface impoundment as a means of treatment, storage, or disposal of hazardous wastes?		
	_____	If YES see ERGO items 4-102 through 4-110.
8. Does facility have waste piles?		
	_____	If YES see ERGO items 4-111 through 4-118.
9. Does facility have land treatment of hazardous waste?		
	_____	If YES see ERGO items 4-119 through 4-126.
10. Does facility have hazardous waste in landfills?		
	_____	If YES see ERGO items 4-127 through 4-137.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
11. Does facility incinerate hazardous waste?	N	If YES see ERGO items 4-138 through 4-147.
12. Does facility dispose of hazardous waste in miscellaneous units?	N	If YES see ERGO items 4-148 and 4-149.
13. Does facility have thermal treatment facilities?	N	If YES see ERGO items 4-150 through 4-152.
14. Does facility have chemical, physical, or biological treatment facilities?	N	If YES see ERGO items 4-153 through 4-155.
15. Does facility have restricted wastes?	N	If YES see ERGO items 4-156 through 4-168.

SECTION 5, Natural Resources Management:

1. Does facility have any construction projects?	N	If YES see ERGO item 5-4.
2. Does facility have land management responsibilities?	YES	If YES see ERGO items 5-7 and 5-8.
3. Does facility have floodplains or wetlands?	YES	If YES see ERGO item 5-9.
4. Does facility contain a shoreline?	N	If YES see ERGO item 5-12.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
5. Does facility have endangered or threatened species?	___	If YES see ERGO items 5-13 and 5-14.
SECTION 6, Pesticides Management:		
1. Do facility personnel engage in the application of pesticides?	___	If YES see ERGO items 6-7 through 6-16.
2. Does facility store, mix, or formulate pesticides?	___	If YES see ERGO items 6-17 through 6-28.
a. Does facility store/use pesticides classified highly toxic or moderately toxic (bearing DANGER, POISON, WARNING, or the skull and crossbones symbol)?	___	If YES see ERGO items 6-20 through 6-27.
3. Does facility dispose of pesticides?	___	If YES see ERGO items 6-29 through 6-33.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 7, Petroleum, Oil and Lubricant (POL) Management:		
1. Does the facility store, transport, or dispense petroleum products?		If YES see ERGO items 7-5 through 7-12.
2. Have there been any discharges of oil at the facility?		If YES see ERGO items 7-13 through 7-14.
3. Does the facility have any bulk storage tanks over 660 gallons?		If YES, see ERGO item 7-16.
4. Does the facility use dikes as a means of containment for petroleum storage tanks?		If YES see ERGO items 7-17 and 7-18.
5. Does the facility have any pipelines?		If YES see ERGO items 7-20 through 7-22.
6. Does the facility sell used oil?		If YES, see ERGO item 7-23.
SECTION 8, Solid Waste Management:		
1. Does the facility collect or store solid waste on site?		If YES, see ERGO items 8-4 through 8-12.
2. All Corps facilities must should recycle and reduce solid waste.		See ERGO item 8-13.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does facility have over 100 office workers?		If YES see ERGO item 8-14.
b. Do more than 500 families reside at the facility?		If YES see ERGO item 8-15.
c. Does the facility generate waste corrugated containers?		If YES see ERGO item 8-16.
3. Does facility have land disposal on site?		If YES see ERGO items 8-17 through 8-31.
a. Does facility dispose of water treatment plant sludges?		If YES see ERGO 8-18.
b. Does facility dispose of incinerator or air pollution control residues?		If YES see ERGO item 8-19.
c. Does the facility accept special wastes?		If YES see ERGO item 8-21.
4. Does the facility have a closure site?		If YES, see ERGO items 8-32 and 8-33.
5. Does the facility have a new landfill site?		If YES, see ERGO items 8-34 and 8-35.
6. Does facility have a thermal processing facility?		If YES see ERGO items 8-36 through 8-49.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
6. Does facility store PCBs?		If YES see ERGO items 9-25 through 9-29.
7. Does facility transport PCBs or PCB Items?		If YES see ERGO items 9-30 and 9-31.
8. Does facility dispose of PCBs or PCB Items?		If YES see ERGO items 9-32 through 9-41.
9. Does facility demolish, renovate, or strip components from structures containing friable asbestos?		If YES see ERGO items 9-42 through 9-52.
10. Does facility dispose, or transport for disposal, asbestos or asbestos-containing waste?		If YES see ERGO items 9-53 through 9-57.
11. Is facility located in an area with a potential radon problem?		If YES see ERGO items 9-58 through 9-60.
12. Does facility have any possible sources of noise pollution, or have a noise hazardous area?		If YES see ERGO items 9-61 through 9-68.

SECTION 10, Underground Storage Tanks (USTs) Management:

1. Does facility have organizational fuel tanks?		If YES see ERGO item 10-5.
2. Has facility repaired, or is it planning to repair, a UST?		If YES see ERGO item 10-10.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have hazardous waste USTs?		
	____	If YES see ERGO item 10-19.
4. Does facility have a deferred UST?		
	____	If YES see ERGO item 10-20.
5. Does facility have a metallic UST?		
	____	If YES see ERGO items 10-23 and 10-35.
6. Does facility have newly-installed USTs (i.e., after May, 1986)?		
	____	If YES see ERGO items 10-24 through 10-27.
7. Have facility USTs undergone a change of service, or closure?		
	____	If YES see ERGO items 10-28 through 10-34.
8. Does facility have substandard USTs?		
	____	If YES see ERGO item 10-35.
SECTION 11, Wastewater Management:		
1. Does facility have a floating plant?		
	____	If YES see ERGO item 11-4.
2. Does facility have any point source discharges, or does facility have domestic sewage treatment plants?		
	____	If YES see ERGO items 11-5 through 11-8.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have storm water discharge not covered by a NPDES permit?		If YES see ERGO item 11-9.
4. Does facility discharge to a privately-owned treatment works (POTW)?		If YES see ERGO items 11-10 through 11-12.
5. Does facility have any personnel engaged in the operation of water pollution control devices?		If YES see ERGO item 11-13.
6. Does facility have a wastewater treatment plant?		If YES see ERGO items 11-14 and 11-15.
7. Does facility have electroplating operations?		If YES see ERGO item 11-16 through 11-27.
8. Does facility conduct or issue permits for dredging operations?		If YES see ERGO items 11-28 through 11-35.

SECTION 12, Water Quality Management:

1. Does facility perform contaminant monitoring on its water supply?		If YES see ERGO items 12-18 through 12-43.
2. Is facility located near a sole source aquifer?		If YES see ERGO item 12-44.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility use surface water or ground water under the influence of surface water for drinking water?	No	If **YES** see ERGO items 12-45 through 48.
4. Does facility have recreational potable water sources?		If **YES** see ERGO item 12-49.
5. Does facility have swimming beaches?		If **YES** see ERGO item 12-50.
6. Does facility have swimming pools?	No	If **YES** see ERGO item 12-51.
7. Do facility's waters support watercraft?		If **YES** see ERGO items 12-52.
8. Is facility authorized to provide emergency drinking water?	No	If **YES** see ERGO item 12-53.

Signature of individual completing this form: [signature]

Date completed: 10/6/92

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 3, Hazardous Materials Management:		
1. Does the facility store any hazardous materials?	____	If YES see ERGO items 3-5 through 3-8.
2. Have there been any releases of hazardous substances at the facility?	____	If YES see ERGO items 3-9 through 3-11.
3. Are there any extremely hazardous substances at the facility?	____	If YES see ERGO item 3-12 and 3-13.
4. Does the facility: Have extremely hazardous substances in excess of 500 lbs or the threshold planning quantity (see appendix III-1); have hazardous chemicals in excess of 10,000 lbs; or fall under Standard Industrial Classification Codes 20 to 39?	____	If YES see ERGO item 3-12 and 3-13.
5. Does the facility store compressed gases, flammable/combustibles, or acids?	____	If YES see ERGO items 3-14 through 3-27.
6. Does the facility transport hazardous material, or offer such materials for transport?	____	If YES see ERGO items 3-28 through 3-31.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 4, Hazardous Waste Management:		
1. Is facility a generator of hazardous waste?	Yes	If YES see ERGO items 4-8 through 4-15.
a. Is facility a small quantity generator?	____	If YES see ERGO items 4-16 through 4-18.
b. Is facility a very small quantity generator?	√	If YES see ERGO item 4-19.

Complete this section before proceeding.

Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F)
- or Corrosivity (pH <2 or >12.5)
- or TCLP Toxicity (for As,Ba,Cd,Cr,Pb,Hg,Se,Ag, and selected pesticides.
- or Reactive. (or CN)

The following are hazardous wastes that may typically be found at a Corps facility:

	CHECK IF USED AT THIS FACILITY	Vol Gen/mo lb.	Vol Gen/mo Kg.	Vol Accum lb.	Vol Accum Kg.
___	Solvents	___	___	___	___
___	Liquid Paint	___	___	___	___
___	Paint stripper, remover, or thinner	___	___	___	___
___	Spray paint booth air filters	___	___	___	___
___	Pesticides, Insecticides, Herbicides, etc.	___	___	___	___
___	NBC filters and test kits	___	___	___	___
___	DS2 (diethlene triamine)	___	___	___	___
___	STB (super topical bleach)	___	___	___	___

___	Ordnance, ammunition, explosives & residues	___	___	___	___
___	Battery acid & Caustics (in unserviceable batteries)	___	___	___	___
___	Some pharmaceuticals	___	___	___	___
___	POL Tank Farm fuel system filters	___	___	___	___
___	De-icing solution	___	___	___	___
___	Printing ink, ink solvents and cleaners	___	___	___	___
___	Absorbent materials and soil contaminated with hazardous waste	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
___	Other_____	___	___	___	___
	TOTAL	___	___	___	___

* e.g., Trichlorethane, Methylene, chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon Tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Break-free in liquid form, Mineral Spirits, Xylene

USEPA Generator Designation: ___ Unregulated ___√___ Small Qty ___ Large Qty

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
2. Does facility export/import hazardous waste from/to the United States?	___	If YES see ERGO items 4-23 through 4-31.
3. Does facility transport hazardous waste?	___	If YES see ERGO items 4-32 through 4-37.
4. Does facility have a treatment, storage, or disposal facility (TSDF)?	___	If YES see ERGO items 4-38 through 4-74.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does the TSD facility receive waste from a foreign source?	____	If YES see ERGO item 4-42.
b. Does facility receive waste from off-site sources?	____	If YES see ERGO items 4-46 and 4-47.
c. Does facility handle ignitable, reactive, or incompatible wastes?	____	If YES see ERGO item 4-65 and 4-67.
5. Does facility have hazardous waste containers?	____	If YES see ERGO items 4-75 through 4-86.
6. Does facility store hazardous wastes in tanks?	____	If YES see ERGO items 4-87 through 4-101.
7. Does facility use surface impoundment as a means of treatment, storage, or disposal of hazardous wastes?	____	If YES see ERGO items 4-102 through 4-110.
8. Does facility have waste piles?	____	If YES see ERGO items 4-111 through 4-118.
9. Does facility have land treatment of hazardous waste?	____	If YES see ERGO items 4-119 through 4-126.
10. Does facility have hazardous waste in landfills?	____	If YES see ERGO items 4-127 through 4-137.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
11. Does facility incinerate hazardous waste?	_____	If **YES** see ERGO items 4-138 through 4-147.
12. Does facility dispose of hazardous waste in miscellaneous units?	_____	If **YES** see ERGO items 4-148 and 4-149.
13. Does facility have thermal treatment facilities?	_____	If **YES** see ERGO items 4-150 through 4-152.
14. Does facility have chemical, physical, or biological treatment facilities?	_____	If **YES** see ERGO items 4-153 through 4-155.
15. Does facility have restricted wastes?	_____	If **YES** see ERGO items 4-156 through 4-168.
SECTION 5, Natural Resources Management:		
1. Does facility have any construction projects?	_____	If **YES** see ERGO item 5-4.
2. Does facility have land management responsibilities?	_____	If **YES** see ERGO items 5-7 and 5-8.
3. Does facility have floodplains or wetlands?	_____	If **YES** see ERGO item 5-9.
4. Does facility contain a shoreline?	_____	If **YES** see ERGO item 5-12.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
5. Does facility have endangered or threatened species?	____	If YES see ERGO items 5-13 and 5-14.

SECTION 6, Pesticides Management:

1. Do facility personnel engage in the application of pesticides?	Yes	If YES see ERGO items 6-7 through 6-16.
2. Does facility store, mix, or formulate pesticides?	____	If YES see ERGO items 6-17 through 6-28.
a. Does facility store/use pesticides classified highly toxic or moderately toxic (bearing DANGER, POISON, WARNING, or the skull and crossbones symbol)?	____	If YES see ERGO items 6-20 through 6-27.
3. Does facility dispose of pesticides?	____	If YES see ERGO items 6-29 through 6-33.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
SECTION 7, Petroleum, Oil and Lubricant (POL) Management:		
1. Does the facility store, transport, or dispense petroleum products?	____	If YES see ERGO items 7-5 through 7-12.
2. Have there been any discharges of oil at the facility?	____	If YES see ERGO items 7-13 through 7-14.
3. Does the facility have any bulk storage tanks over 660 gallons?	____	If YES, see ERGO item 7-16.
4. Does the facility use dikes as a means of containment for petroleum storage tanks?	____	If YES see ERGO items 7-17 and 7-18.
5. Does the facility have any pipelines?	____	If YES see ERGO items 7-20 through 7-22.
6. Does the facility sell used oil?	____	If YES, see ERGO item 7-23.
SECTION 8, Solid Waste Management:		
1. Does the facility collect or store solid waste on site?	____	If YES, see ERGO items 8-4 through 8-12.
2. All Corps facilities must should recycle and reduce solid waste.	____	See ERGO item 8-13.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
a. Does facility have over 100 office workers?	_____	If YES see ERGO item 8-14.
b. Do more than 500 families reside at the facility?	_____	If YES see ERGO item 8-15.
c. Does the facility generate waste corrugated containers?	_____	If YES see ERGO item 8-16.
3. Does facility have land disposal on site?	_____	If YES see ERGO items 8-17 through 8-31.
a. Does facility dispose of water treatment plant sludges?	_____	If YES see ERGO 8-18.
b. Does facility dispose of incinerator or air pollution control residues?	_____	If YES see ERGO item 8-19.
c. Does the facility accept special wastes?	_____	If YES see ERGO item 8-21.
4. Does the facility have a closure site?	_____	If YES, see ERGO items 8-32 and 8-33.
5. Does the facility have a new landfill site?	_____	If YES, see ERGO items 8-34 and 8-35.
6. Does facility have a thermal processing facility?	_____	If YES see ERGO items 8-36 through 8-49.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
7. Does the facility utilize resource recovery facilities?	/	If YES see ERGO items 8-50 and 8-51.
a. If the facility does **NOT** utilize resource recovery facilities, a report must be filed with the Administrator explaining the decision not to utilize.		
		See ERGO item 8-50.
SECTION 9, Special Pollutants Management:		
1. Does facility have PCBs of any kind?	/	If YES, see ERGO items 9-4 through 9-11.
a. Does facility have a PCB waste landfill?		If YES, see ERGO item 9-10.
b. Does facility have PCB storage or disposal facilities?		If YES, see ERGO item 9-11.
2. Does facility have PCB transformers?	/	If YES, see ERGO items 9-12 through 9-18.
3. Has facility had a PCB spill?		If YES see ERGO item 9-19.
4. Does facility have PCB Items (PCB-contaminated heat transfer or hydraulic systems, electromagnets, switches, voltage regulators, capacitors, circuit breakers, reclosers, or cables)?	/	If YES see ERGO items 9-20 through 9-23.
5. Does facility use PCBs in research?	/	If YES see ERGO item 9-24.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
6. Does facility store PCBs?		If YES see ERGO items 9-25 through 9-29.
7. Does facility transport PCBs or PCB Items?		If YES see ERGO items 9-30 and 9-31.
8. Does facility dispose of PCBs or PCB Items?		If YES see ERGO items 9-32 through 9-41.
9. Does facility demolish, renovate, or strip components from structures containing friable asbestos?		If YES see ERGO items 9-42 through 9-52.
10. Does facility dispose, or transport for disposal, asbestos or asbestos-containing waste?		If YES see ERGO items 9-53 through 9-57.
11. Is facility located in an area with a potential radon problem?		If YES see ERGO items 9-58 through 9-60.
12. Does facility have any possible sources of noise pollution, or have a noise hazardous area?		If YES see ERGO items 9-61 through 9-68.
SECTION 10, Underground Storage Tanks (USTs) Management:		
1. Does facility have organizational fuel tanks?		If YES see ERGO item 10-5.
2. Has facility repaired, or is it planning to repair, a UST?		If YES see ERGO item 10-10.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have hazardous waste USTs?	____	If **YES** see ERGO item 10-19.
4. Does facility have a deferred UST?	____	If **YES** see ERGO item 10-20.
5. Does facility have a metallic UST?	____	If **YES** see ERGO items 10-23 and 10-35.
6. Does facility have newly-installed USTs (i.e., after May, 1986)?	____	If **YES** see ERGO items 10-24 through 10-27.
7. Have facility USTs undergone a change of service, or closure?	____	If **YES** see ERGO items 10-28 through 10-34.
8. Does facility have substandard USTs?	____	If **YES** see ERGO item 10-35.

SECTION 11, Wastewater Management:

1. Does facility have a floating plant?	____	If **YES** see ERGO item 11-4.
2. Does facility have any point source discharges, or does facility have domestic sewage treatment plants?	____	If **YES** see ERGO items 11-5 through 11-8.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility have storm water discharge not covered by a NPDES permit?	____	If YES see ERGO item 11-9.
4. Does facility discharge to a privately-owned treatment works (POTW)?	____	If YES see ERGO items 11-10 through 11-12.
5. Does facility have any personnel engaged in the operation of water pollution control devices?	____	If YES see ERGO item 11-13.
6. Does facility have a wastewater treatment plant?	____	If YES see ERGO items 11-14 and 11-15.
7. Does facility have electroplating operations?	____	If YES see ERGO item 11-16 through 11-27.
8. Does facility conduct or issue permits for dredging operations?	____	If YES see ERGO items 11-28 through 11-35.
SECTION 12, Water Quality Management:		
1. Does facility perform contaminant monitoring on its water supply?	____	If YES see ERGO items 12-18 through 12-43.
2. Is facility located near a sole source aquifer?	____	If YES see ERGO item 12-44.

QUESTION/DESCRIPTION	RESPONSE	REFERENCE
3. Does facility use surface water or ground water under the influence of surface water for drinking water?	____	If YES see ERGO items 12-45 through 48.
4. Does facility have recreational potable water sources?	____	If YES see ERGO item 12-49.
5. Does facility have swimming beaches?	____	If YES see ERGO item 12-50.
6. Does facility have swimming pools?	____	If YES see ERGO item 12-51.
7. Do facility's waters support watercraft?	____	If YES see ERGO items 12-52.
8. Is facility authorized to provide emergency drinking water?	____	If YES see ERGO item 12-53.

Signature of individual completing this form:_____

Date completed:_____

Appendix B

CENED-OD-P 12 June 1992

MEMORANDUM FOR NED Executive Staff

SUBJECT: NED Environmental Compliance Coordinator

1. In January 1991, John Elmore, Chief, Operations, Construction and Readiness Division, directed division and district operations offices to formally designate Environmental Compliance Coordinators (ECC's). The Director of Operations designated Bruce Williams, Project Operations and Readiness Division as the New England Division ECC.

2. In a follow-up memo dated 31 March 1992, The Director of Civil Works expanded the role of the Environmental Compliance Coordinators to be utilized as division or district environmental coordinators. This is a coordination, as opposed to an operative assignment. The ECC's will support rather than assume environmental compliance responsibilities of the various functional elements (Planning, Engineering, Project Program Management, Logistics, Safety and Occupational Health, and Real Estate, etc.).

3. The Corps of Engineer objective is to develop and maintain a comprehensive and consistent environmental compliance program utilizing the existing Operations "stovepipe", since Operations is responsible for the majority of Corps facilities. In the future, the ECC should be included in the review process of programs or projects that involve environmental compliance as part of the construction, operation or maintenance activities at Corps owned or operated facilities and projects.

4. As a part of the USACE Facilities Environmental Compliance Program, the Director of Civil Works recommended that Commanders should also establish and chair an interdisciplinary Environmental Compliance Steering Committee with representatives from the various affected offices throughout NED. Rather than develop parallel organizations performing the same function, I am tasking the NED Executive Staff to serve an additional function as the Environmental Compliance Steering Committee. The Director of Operations will provide direction and oversight to the ECC and overall coordination with NED Executive Staff.

JAMES K. HUGHES
LTC, EN
Commanding

cf:
Distribution "A"
Bruce Williams ECC

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

2 MAR 1992

S: 31 March 1992

CECW-OA

MEMORANDUM FOR COMMANDERS, ALL MAJOR SUBORDINATE COMMANDS, DISTRICT COMMANDS, AND LABORATORIES

SUBJECT: USACE Facilities Environmental Compliance

1. In June 1991, Lieutenant General H. J. Hatch, Chief of Engineers, assigned me the mission of assuring that all USACE facilities and associated lands meet environmental standards contained in relevant Federal, DoD, Army, state, and local laws and regulations. In an effort to ensure USACE facilities environmental compliance, commanders are directed to initiate an environmental assessment/deficiency correction program for all Corps property utilizing the Environmental Review Guide for Operations (ERGO). Our overall goal is to complete environmental assessments and develop corrective action plans at all Corps projects and facilities by the end of FY94.

2. ERGO is a checklist of environmental laws and regulations, good management practices, and risk management issues. ERGO was designed as a self assessment tool, but can also be used for formal, or external assessments. Project and facility managers, with technical assistance from district elements, state authorities or private sector contractors, can use ERGO to determine if their operations are being conducted in accordance with environmental laws and regulations. ERGO assessments are a proactive approach to environmental compliance and protection. Findings identified in ERGO assessments should be prioritized and remediation measures performed as routine maintenance work or programmed in the budget process.

3. Civil Works Operations elements are already implementing ERGO, with a goal of completing ERGO assessments at 25 percent of Corps O&M General funded operating projects and facilities this FY. I now ask that you schedule and conduct ERGO assessments at facilities and projects operated with other than O&M General funds (e.g. Mississsippi River and Tributaries funded projects, district motor pools, regional warehouses, Corps operated printing plants and photo labs, etc.).

4. ERGO was initially developed for use at operating projects. Since we are now expanding its application, you may find that some refinement is required to thoroughly assess facilities not considered when preparing the current manual. Contact Dr. Diane Mann of CERL-ENM at (217) 373-6741, for help in dealing with facilities and regulations not currently covered in the manual.

CECW-ON
SUBJECT: USACE Facilities Environmental Compliance

Recommendations for improving the checklist can be directed to Dr. Mann at Department of the Army, Construction Engineering Research Laboratory, Corps of Engineers, P.O. Box 9005, Champaign, Illinois 61826-9005. From efficiency and comparative standpoints we are committed to using a single environmental compliance protocol throughout USACE.

5. I encourage all elements to take a teamwork approach, using existing expertise, rather than developing parallel organizations performing the same function, to initiate, develop, and maintain environmental compliance and assurance at all USACE operated and funded projects, facilities, and activities. This teamwork approach will minimize duplicating effort and assessment costs. Commanders, if they have not already done so, should also establish and chair an interdisciplinary Environmental Compliance Steering Committee with representatives from the various affected offices throughout your organization. The steering committee will provide direction and oversight.

6. In January 1991, John Elmore, Chief, Operations, Construction nd Readiness Division, directed division and district operations offices to formally designate Environmental Compliance Coordinators (ECCs). Hereafter, these coordinators will be utilized as division or district environmental compliance coordinators. This is a coordination, as opposed to an operative, assignment. The ECCs will support rather than assume environmental compliance responsibilities of the various functional elements (Planning, Engineering, Project Program Management, Logistics, Safety and Occupation Health, and Real Estate). Our objective is to develop and maintain a comprehensive and consistent environmental compliance program, utilizing the existing Operations "stovepipe", since Operations is responsible for the majority of USACE facilities.

7. We will distribute revised ERGO manuals and follow on compliance materials to each currently designated division and district ECC for dissemination to offices involved in environmental compliance throughout your organization. If there are any updates to the current list of ECCs, please forward their name, office symbol, FTS and commercial telephone numbers, Fax number, and Corps Mail I.D. to CECW-OA, ATTN: Jim Wolcott, by 31 March 1992. Field Operating Activities and Laboratories should also designate and provide information on ECCs.

FOR THE COMMANDER:

ARTHUR E. WILLIAMS
Major General, USA
Director of Civil Works

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

0 8 NOV 1991

REPLY TO
ATTENTION OF:

CECW-ON (1130-2-2)

MEMORANDUM FOR COMMANDERS, ALL MAJOR SUBORDINATE COMMANDS, DISTRICT COMMANDS, FIELD OPERATING ACTIVITIES AND LABORATORIES

SUBJECT: USACE Facilities Environmental Compliance Program (Internal)

1. I recently reassigned the mission of assuring that all USACE facilities and associated lands meet environmental standards contained in relevant Federal, DoD, Army, state, and local laws and regulations to the Director of Civil Works. This action is in response to your comments regarding implementing an environmental compliance initiative within USACE.

2. Program oversight will be provided by a steering committee chaired by the Deputy Director of Civil Works, with Logistics, Military Programs, Office of Counsel, Real Estate, Research and Development, Safety and Occupational Health and the U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) represented. An Environmental Compliance Branch within Operations, Construction and Readiness Division will develop, coordinate, and manage the program. Civil Works will provide further details as the USACE Facilities Environmental Compliance Program unfolds.

3. The Corps has an ethical and legal obligation to protect our environment through prevention, compliance, restoration and stewardship. We are counting on your support and enthusiasm, coupled with the evolving USACE Facilities Environmental Compliance Program, to demonstrate our commitment to, and capabilities in, environmental protection.

H. J. HATCH
Lieutenant General, USA
Commanding

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

REPLY TO
ATTENTION OF:

S: 15 February 1991

CECW-ON

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDS AND DISTRICT COMMANDS

SUBJECT: Environmental Review Guide for Operations (ERGO)

1. I am enclosing the Environmental Review Guide for Operations (ERGO), a checklist for analyzing compliance with environmental laws and regulations at our operating projects. Copies are being sent to all District Operations offices for distribution to projects. We are releasing ERGO as a test document for use during the remainder of FY 91. An implementation workshop is in the planning stage. Specifics will be provided later.

2. Lieutenant General Hatch, in his 14 February 1990 letter, "Strategic Direction for Environmental Engineering", echoed Secretary Cheney's call for DOD to be the "Federal leader in environmental compliance and protection." ERGO is a pro-active approach to compliance.

3. The Construction Engineering Research Laboratory developed ERGO. A steering committee with Division, District and project members from Operations elements provided guidance and direction. Their goal was to produce a self-assessment tool for managers of operating projects with District teams, State agencies, contractors and the United States Army Toxic and Hazardous Waste Agency as potential sources of support.

4. Environmental compliance is a legal and ethical responsibility, an integral part of doing business. I ask that you apply ERGO at one or more projects in each District this FY.

5. We will need feedback to update ERGO for full implementation in FY 92. Every Division and District Operations office should formally designate an environmental compliance coordinator. These individuals will be our POCs regarding ERGO and other environmental matters. They will act as liaisons with the various functional areas within Operations organizations, and with POCs from other elements with environmental responsibilities. Please forward the names, office symbols, and telephone numbers of your Division and District environmental compliance coordinators to CECW-ON, ATTN: Jim Wolcott by 15 February 1991.

FOR THE DIRECTOR OF CIVIL WORKS:

JOHN P. ELMORE
Chief, Operations, Construction and
Readiness Division
Directorate of Civil Works

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
WASHINGTON, D.C. 20314-1000

23 DEC 1991

REPLY TO
ATTENTION OF:

10 January 1992

CECW-ON

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDS

SUBJECT: FY 92 Environmental Assessments at Operating Projects

1. As managers of over 400 water resources projects and stewards of 11.7 million acres of land and water, we individually and corporately have an ethical and legal responsibility to protect the environment. Your positive response to the Environmental Review Guide for Operations (ERGO) we distributed last January is appreciated. We are now ready to proceed with an organization-wide series of ERGO assessments. The FY 92 target is to complete ERGO assessments at 25 percent of our O&M General funded operating projects and facilities. The remainder will be assessed within the following two years. Assessments of facilities and projects operated with other than O&M General funds will be addressed by separate memorandum.

2. As an indication of the importance of this effort, we are providing dedicated O&M funding from headquarters to insure that these assessments are completed. Enclosed is a list of funds available for allocation to each division. These funds are for conducting assessments and converting findings into corrective action plans. Corrective actions are to be implemented through routine budgeting and reprogramming procedures. We ask that you respond with a list of projects, by district, at which ERGO evaluations will be conducted in FY 92, and the portion of your division's total allocation we should distribute to each project on your list. Include the CWIS number with each project you identify. Please respond to Denise White of our Natural Resources Management Branch (CECW-ON) by 10 January 1992.

3. In selecting projects and facilities for FY 92 assessments, we recommend that you concentrate on locations having the greatest potential for significant compliance shortfalls. When evaluating projects, evaluate all functions (hydropower, recreation, etc.) at the same time, to obtain comprehensive project assessments and action plans.

4. Our overall FY 92 budget for ERGO assessments is based on an estimated average cost of $13K per project. To contain costs, use ERGO in conjunction with the representative sampling techniques presented at the Kansas City and Dallas ERGO orientation sessions.

CECW-ON
SUBJECT: FY 92 Environmental Assessments at Operating Projects

Contact Dr. Diane Mann of Construction Engineering Research Laboratory (CERL) at 217-373-6741 for help in designing representative sampling formats.

5. ERGO was developed as a self-assessment tool for managers of operating projects, with district teams, state agencies, and contractors as potential sources of support. Because of the complexity of the laws and regulations, several respondents from the FY 91 effort commented on the benefits of inter disciplinary teams, including representation from offices such as Engineering, Logistics, Planning, Real Estate, and Safety and Occupational Health. While we are not specifying the way this first round of assessments is to be conducted, we are requiring the involvement, to the extent possible, of personnel from the project or facility being assessed to maximize training benefits. We are also emphasizing quality products that will withstand independent scrutiny.

6. Real Estate is responsible for reviewing user compliance with real estate instrument provisions, and reviewing environmental compliance clauses in such outgrants. ERGO is designed to apply to operating projects and facilities, including outgrants. We understand that in some locations the concept of applying ERGO to outgrants and concessions is surfacing unanticipated issues. Outgrant related issues will be addressed at the joint Real Estate/Natural Resources Meeting scheduled for January 1992. Please be sure that your representatives come to that meeting with complete and current information, both positive and negative. More specific guidance will be issued following that meeting.

7. In January 1992, we will distribute an updated ERGO manual reflecting FY 91 user feedback and incorporating new and revised laws and regulations. As you proceed with ERGO assessments in FY 92, it is especially important that you record "lessons learned" and track costs per assessment, including report and action plan development costs.

8. In support of our commitment to promote environmental compliance at all levels and functions, we have tasked CERL with developing and conducting ERGO orientation programs at our districts during the FY 92/93 time frame. A video based ERGO training course has also been approved for development by Huntsville Division. Additional information will be provided as these projects progress.

CECW-ON
SUBJECT: FY 92 Environmental Assessments at Operating Projects

3. Periodic EAOP assessments are the foundation of [illegible] mental compliance program and your comments and recommendations are welcome at any time. They can be directed to Denise White at 202-272-0794.

FOR THE DIRECTOR OF CIVIL WORKS:

Encl

JOHN P. ELMORE, P.E.
Chief, Operations, Construction
and Readiness Division
Directorate of Civil Works

ENVIRONMENTAL REVIEW GUIDE FOR OPERATIONS (ERGO)

FISCAL YEAR 92 BUDGET DISTRIBUTION

The following is a listing of funding distribution in thousands of dollars to division offices for performing ERGO assessments. NOTE: Construction General (CG) and Mississippi River and Tributaries (MR&T) funded projects were not considered.

Division	Amount
LMD	145.0
MRD	105.0
NAD	95.0
NCD	210.0
NED	105.0
NPD	130.0
ORD	455.0
SAD	185.0
SPD	65.0
SWD	430.0
TOTAL	1,925.0

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
KINGMAN BUILDING
FORT BELVOIR, VA 22060-

REPLY TO
ATTENTION OF:

CEIG-I (20-1g)

17 DEC 1991

MEMORANDUM FOR ALL DISTRICT AND DIVISION COMMANDERS

SUBJECT: Environmental Compliance Concerns Within USACE

1. Earlier this year my office completed a systemic inspection of environmental compliance on lands controlled by USACE. A copy of this report has been recently distributed to your command and should be reviewed by you and members of your staff. We reported to the Chief that compliance problems exist across USACE with the many Federal, State and local environmental laws. We found at HQUSACE, and throughout the Corps:

a. Organizational confusion as to who was in charge of environmental compliance.

b. Lack of comprehensive guidance.

c. Lack of Corps-wide policy on disposal of our hazardous materials and hazardous waste.

d. Training shortfalls.

e. Inadequate environmental assessment/inspection on lands we control.

f. Failure to program resources to insure environmental compliance.

g. Problems with environmental compliance on Corps lands leased to others for use.

h. Unfulfilled commitments to mitigate environmental impact on many Corps projects.

2. Our inspection teams visited fourteen districts in eight divisions and a laboratory. Inspectors physically toured over 240 different sites. They found compliance issues at virtually every site visited. Enclosed are pictures of typical findings.

3. I would like to emphasize that the situations shown in the pictures are typical and were not found at only one location or in any one particular district. Rather, they are likely to exist at any site or possibly at every site. I urge you and your staff to make it a special point to visit all land under your jurisdiction, especially lands leased and outgranted to others, with a keen eye to discover any environmental compliance

violations or problems. You then need to follow through and insure resources are programed and dedicated to correct these problems in a timely fashion.

4. The U.S. Army Toxic and Hazardous Materials Agency (USATHAMA) is available to answer environmental questions at 1-800 USA EVHL. My POC for this action is LTC Dan Shuey or LTC Fred Streb at Commercial (703)355-3575 or DSN 345-3575.

FOR THE COMMANDER:

Encl

GERALD M. TIPPINS
Colonel, IE
The Engineer Inspector General

CF:
CECER
CECRL
CETEC
CEWES
CEHSC
CETHA
CECW-ZA (MG Williams)
CECW-O (Mr. Elmore

ENVIRONMENTAL INSPECTION PHOTOGRAPHS

Photograph 1

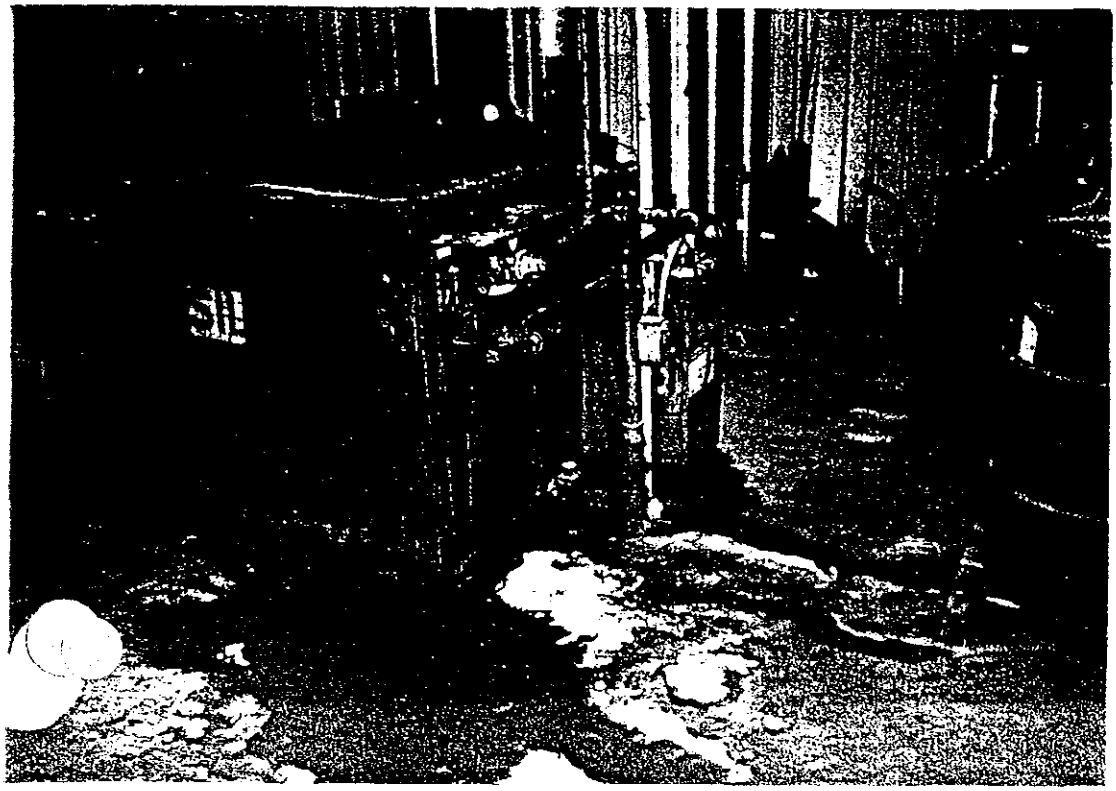
Storage Area

Area of Concern:

1. Violation of RCRA, CERCLA, and TSCA

2. Soil Contamination

3. Improper storage/disposal of HTW



Photograph 2

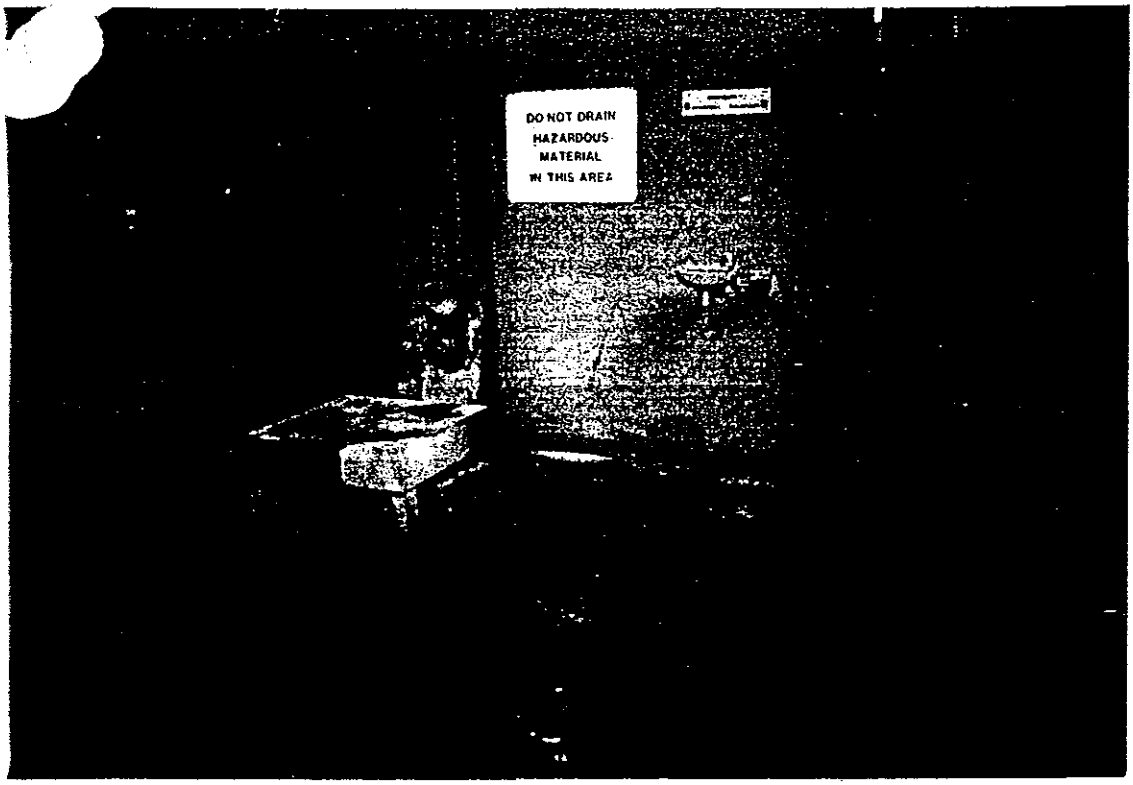
Maint. & Paint Shop

Area of Concern:

1. Violation of CWA

2. Requires NPDES permit

3. Discharge of Hazardous waste into reported storm drain



Photograph 3

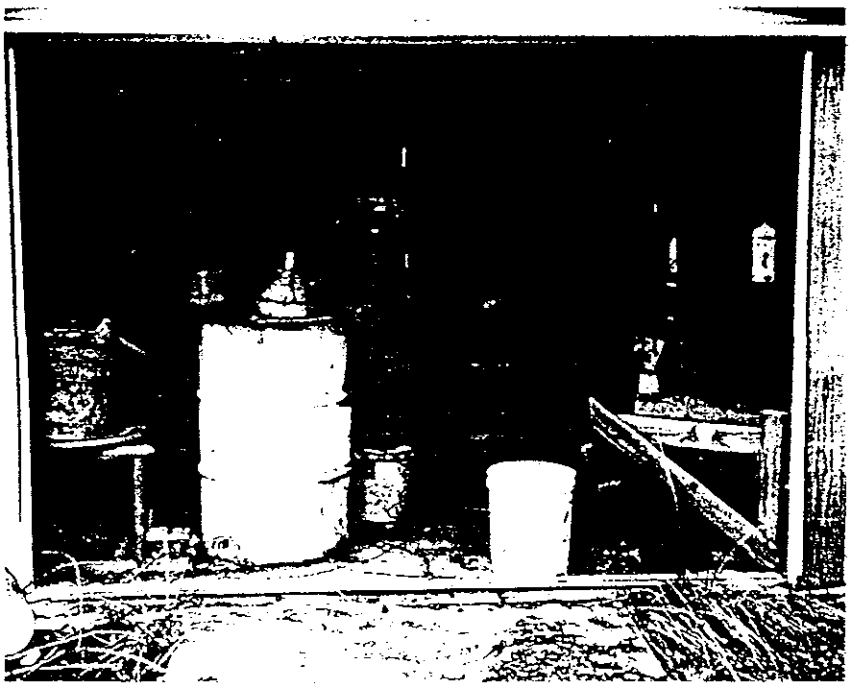
Maint. & Paint Storage Area

Area of concern:

1. Violation of RCRA and CWA

2. NPDES permit required

3. Discharge of Hazardous Material into reported storm drain



Photograph 4

Used Oil Storage Area

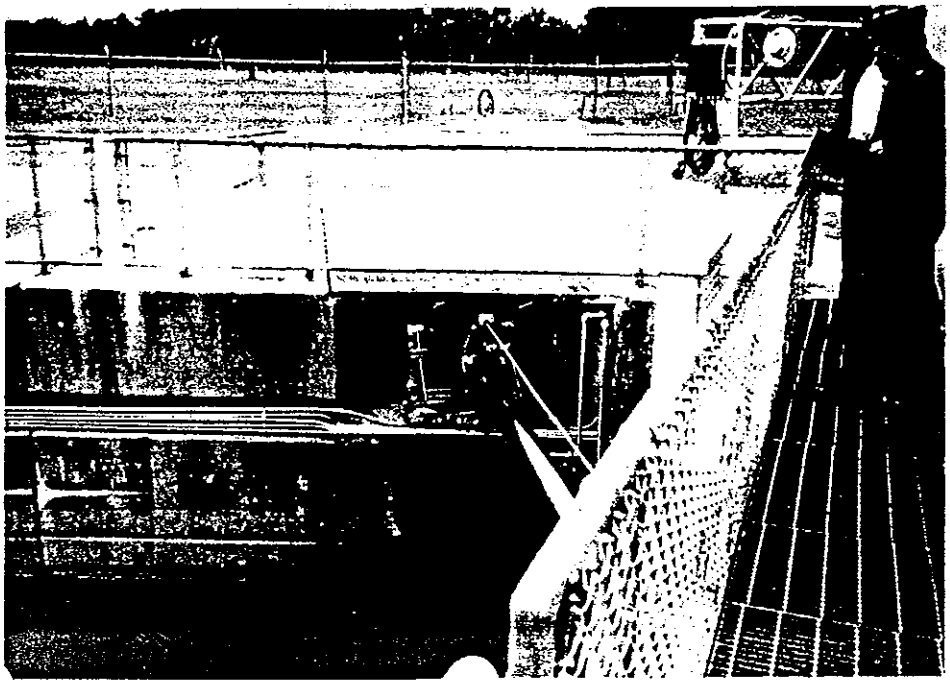
Area of Concern:

1. Violation of RCRA

2. Soil contamination

3. Requires spill contingency plan

4. Housekeeping



Photograph 5

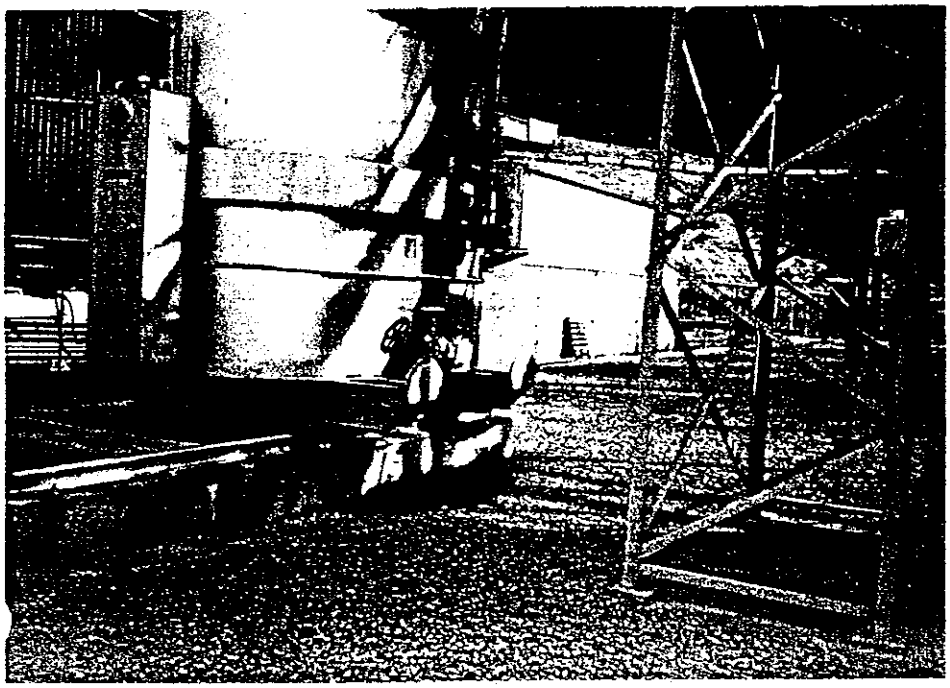
Lock and Dam

Area of Concern:

1. Violation of CWA

2. Spill prevention plan

3. Contamination of project waters



Photograph 6

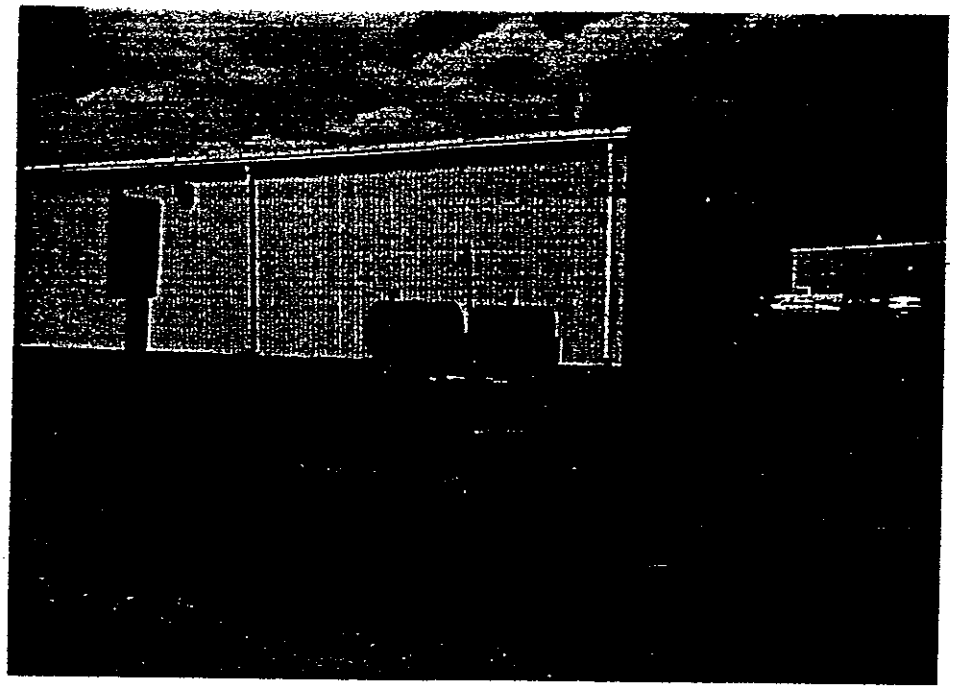
Hydropower Plant Transformers

Area of Concern:

1. Violation of CWA and CERCLA

2. Soil contamination

3. Discharge of Hazardous materials (possible PCB)



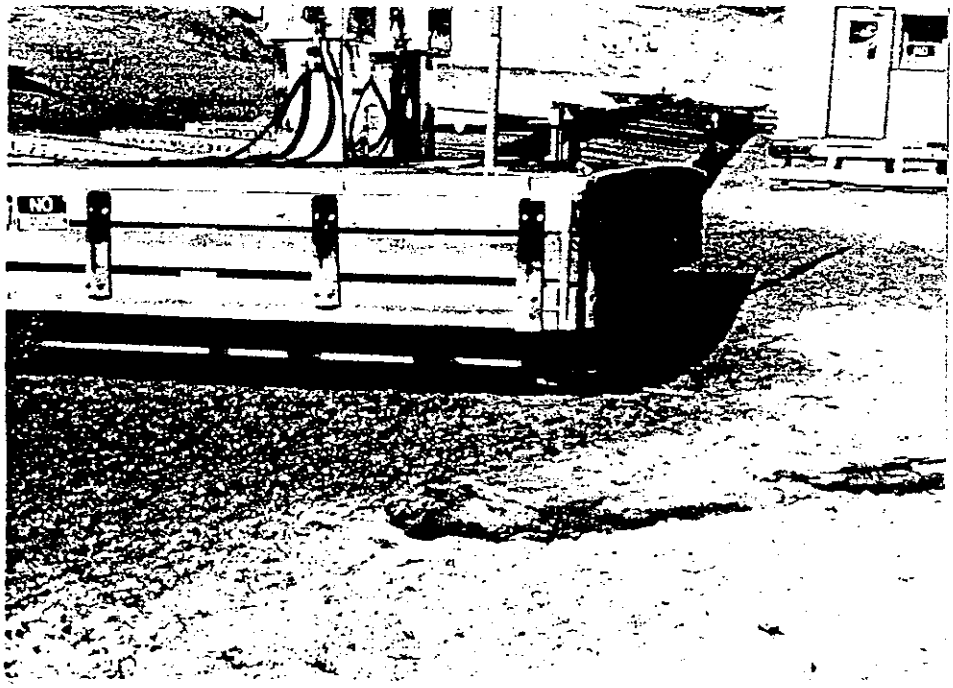
Photograph 7

Diesel Oil Storage Tanks

Area of Concern:

1. Soil contamination

2. Location of storm drain requires spill contingency plan



Photograph 8

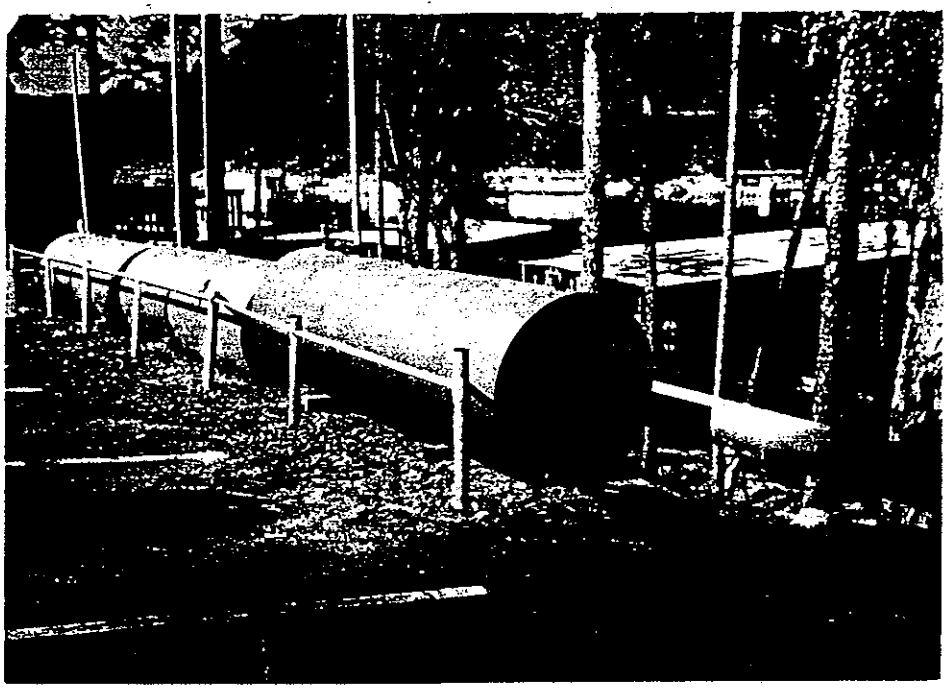
Gasoline Dispensers in a Marina.

Area of Concern:

1. Violation of CWA

2. Contamination of project waters

3. Lack of environmental compliance/enforcement on real estate lease



Photograph 9

Fuel Storage Area in Marina.

Area of Concern:

1. Violation of CWA

2. Requires spill contingency plan

3. Lack of environmental compliance/enforcement on real estate lease

Photograph 10

Dispensing Area

Area of Concern:

1. Soil contamination

2. Spill contingency plan

3. Housekeeping

Photograph 11

Solid Waste Disposal site

Area of Concern:

1. Violation of solid waste disposal regulations

2. Creosote timbers: Violation of CERCLA

3. Potential NPL site

Photograph 12

Used Drums & Metal Storage Area

Area of Concern:

1. Violation of RCRA and solid waste regulations

2. Soil contamination

3. Improper storage of HTW

4. Lease enforcement

Photograph 13

Storage/Wash and Fuel Transfer Site

Area of Concern:

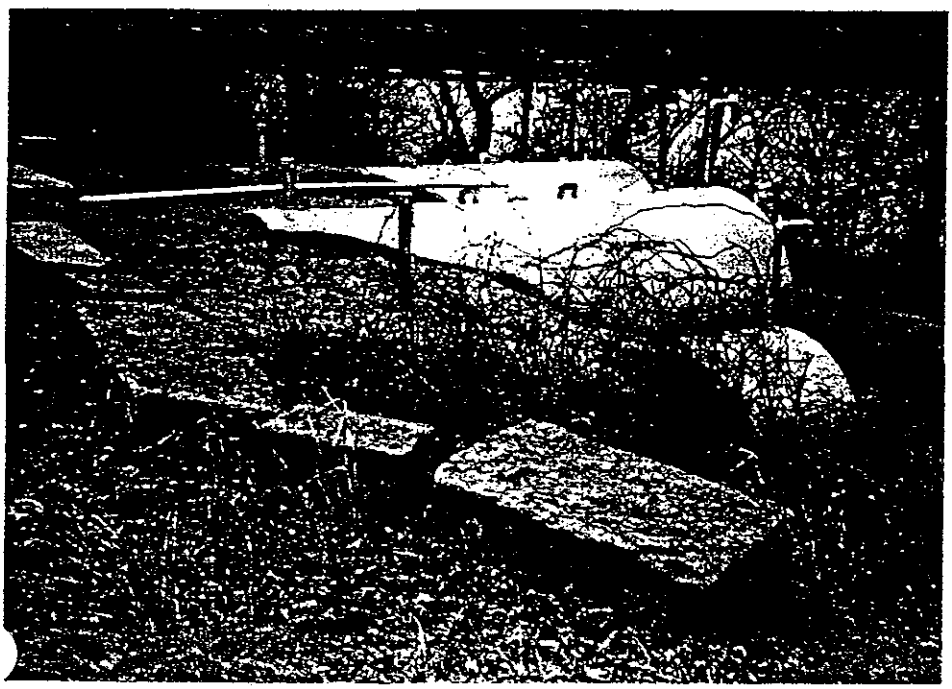
1. Violation of RCRA and CERCLA

2. Soil contamination

3. Requires spill contingency plan

4. Improper storage of hazardous materials

5. Housekeeping



Photograph 14

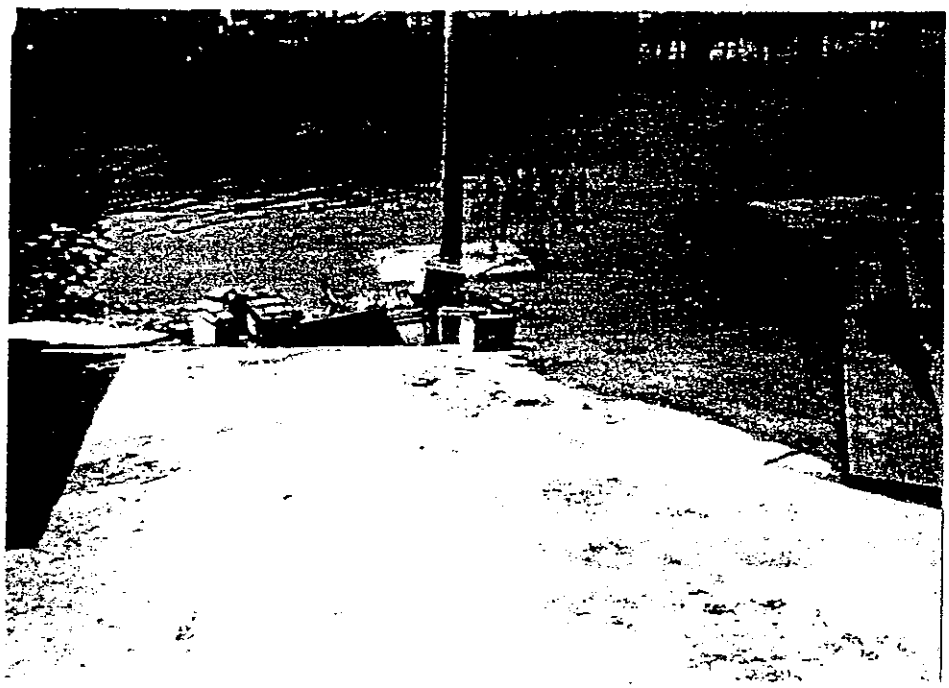
Fuel Storage Area

Areas of Concern:

1. Violation of RCRA and CWA

2. Requires spill contingency plan

3. Underground fuel storage tank requirements



Photograph 15

Batteries Storage Area

Area of concern:

1. Violation of CWA, CERCLA

2. Contamination of Project Waters

3. Lease enforcement

Photograph 16

Contractor's Storage Tank

Area of Concern:

1. Violation of CWA

2. Soil contamination

3. Enforcement of Contract Requirements for Environmental Compliance.

4. Spill contingency plan

Photograph 17

Oil Rights Outgrant

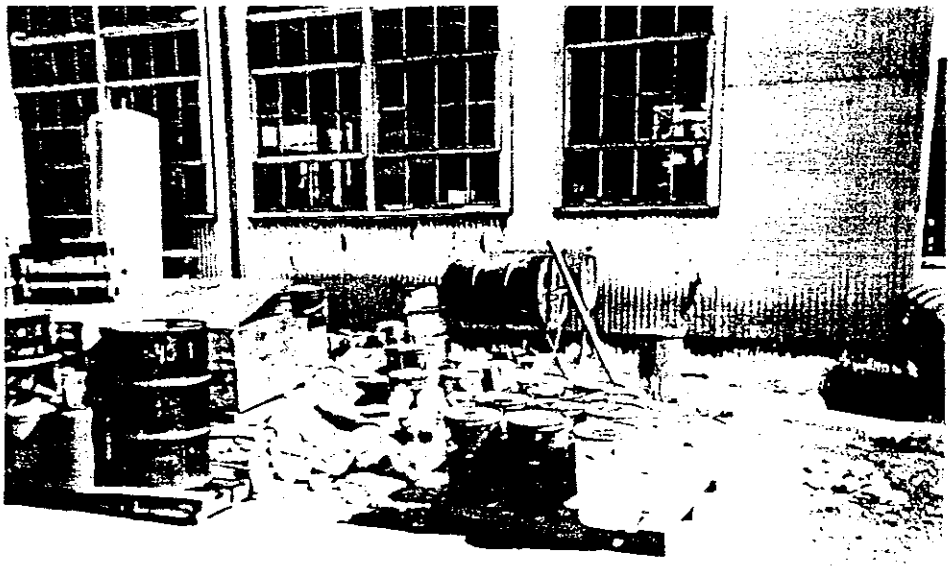
Area of Concern:

1. Violation of RCRA, CWA

2. Soil Contamination

3. Lease enforcement

4. Spill contingency plan



Photograph 18

Oil, Paint Storage Area

Area of Concern:

1. Violation of RCRA

2. Improper storage of HTW

3. Soil contamination

4. Housekeeping

5. Spill contingency plan

Photograph 19

Paint, Oil Storage Area

Area of Concern:

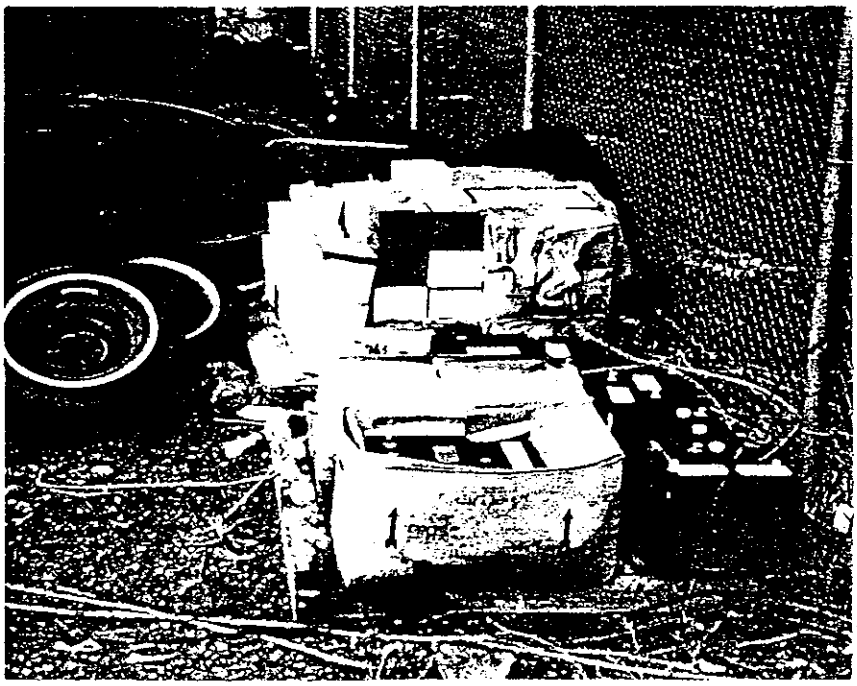
1. Violation of RCRA, CERCLA

2. Soil contamination

3. Improper storage/disposal of HTW

4. Housekeeping

5. Spill contingency plan



Photograph 20

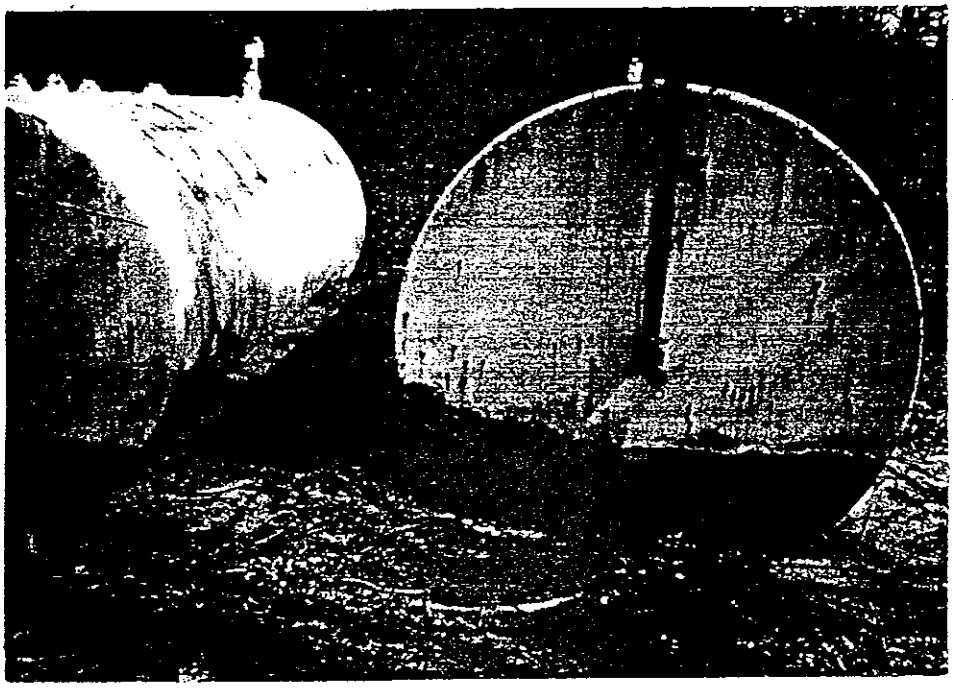
Batteries Storage Area

Area of Concern:

1. Violation of RCRA, CERCLA

2. Improper storage/disposal of HTW

3. Spill contingency plan



Photograph 21

Fuel Tanks

Area of Concern:

1. Violation of RCRA

2. Spill contingency

Photograph 22

Contractor's Fuel Dispensing Area

Area of Concern:

1. Soil contamination

2. Poor housekeeping

3. Spill contingency plan

Appendix C

ENVIRONMENTAL COMPLIANCE

ABBREVIATION LIST

CAA	-	Clean Air Act
CFR	-	Code of Federal Regulations
CO	-	Carbon Monoxide
CWA	-	Clean Water Act
DoD	-	Department of Defense
ECC	-	Environmental Compliance Coordinator
EPA	-	Environmental Protection Agency
ECAS	-	Environmental Compliance Assessment System
ERGO	-	Environmental Review Guide for Operations
FIFRA	-	Federal Insecticide, Fungicide, and Rodenticide Act
FWS	-	U.S. Fish and Wildlife Service
MP	-	Management Practice
MSDS	-	Material Safety Data Sheet
NAAQS	-	National Ambient Air Quality Standards
NEPA	-	National Environmental Policy Act
NFPA	-	National Fire Protection Act
NHPA	-	National Historic Preservation Act
NHRM	-	Natural and Historic Resources Management
NO^{X}	-	Nitrogen Oxides
NPDES	-	National Pollutant Discharge Elimination System
NRM	-	Natural Resources Management
OHSPC	-	Oil and Hazardous Substances Pollution Contingency Plan
OMP	-	Operational Management Plan
PCB's	-	Polychlorinated Biphenyls
pCi/L	-	picoCurie per Liter
PMP	-	Pest Management Plan
POL	-	Petroleum Based Fuel or Lubricant
PPM	-	Parts Per Million
RCRA	-	Resource Conservation and Recovery Act
SARA	-	Superfund Amendments and Reauthorization Act of 1986
SDWA	-	Safe Drinking Water Act
SHPO	-	State Historic Preservation Officer
SPCC	-	Spill Prevention Control and Countermeasures
TCLP	-	Toxic Constituent Leaching Procedure
TSCA	-	Toxic Substances Control Act
TSDF	-	Treatment, Storage, and Disposal Facility
UFO	-	Unidentified Flying Object
USACE	-	U. S. Army Corps of Engineers
UST	-	Underground Storage Tanks
VOC	-	Volatile Organic Compound

Appendix D

Appendix D

Photographs

North Hartland Dam

1. Open burning debris pile above swim beach area
2. Improper waste oil storage - storage building
3. Solid waste - jungle gym, old lumber, shed roof
4. CRREL research tire "storage area" and waste 55 gallon barrels
5. Diesel fuel dispensing area - storage building

Union Village Dam

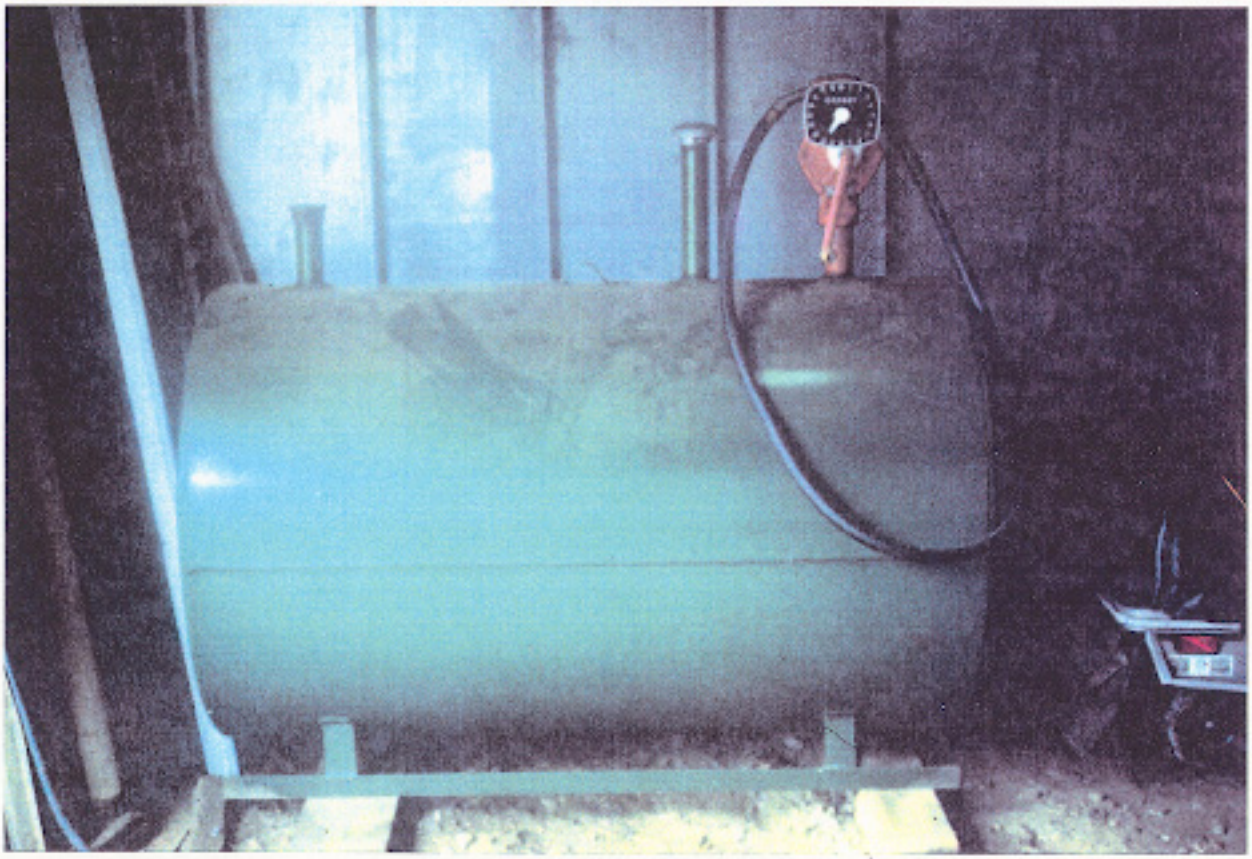
1. Discarded chain link fencing near open dump on Avery Brook
2. Open dump on steep embankment 100 feet from Avery Brook
3. Creosote treated fence posts, guardrail and concrete fence posts near open dump on Avery Brook
4. Sediments dredged from intake gates - material and leachates not tested for contaminants
5. Old farm dump along Ompompanoosuc River
6. Old car body along Avery Brook

Photograph 1

Photograph 2

Photograph 3

Photograph 4



Photograph 5

Photograph 1

Photograph 2

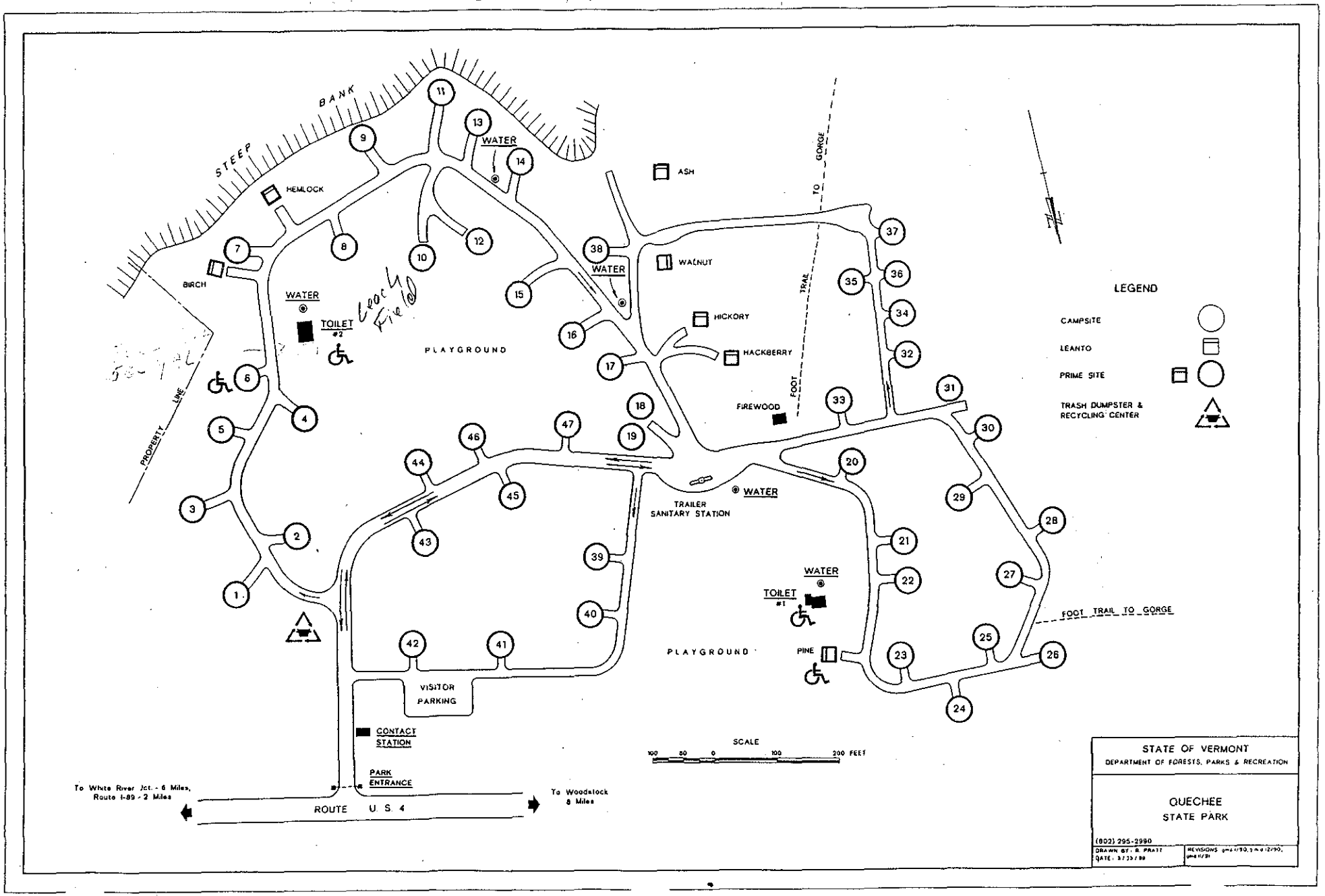
Photograph 3

Photograph 4

Photograph 5

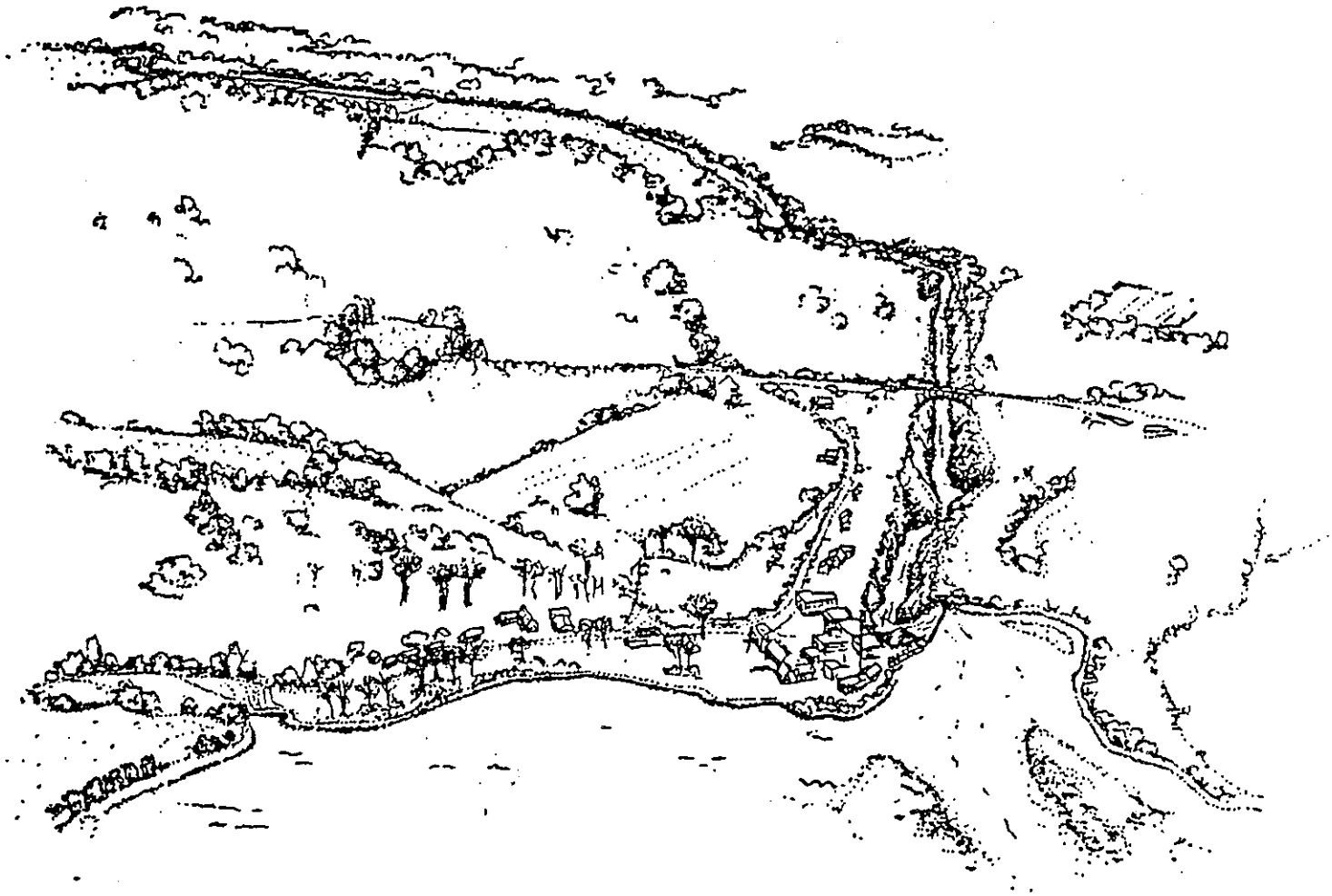
Photograph 6

Appendix E


STEEP BANK
HEMLOCK
BIRCH
WATER
TOILET #2
PLAYGROUND
PROPERTY LINE
WATER
ASH
TO GORGE
WALNUT
TRAIL
HICKORY
HACKBERRY
FIREWOOD
FOOT
WATER
TRAILER SANITARY STATION
WATER
TOILET #1
PLAYGROUND
PINE
FOOT TRAIL TO GORGE
VISITOR PARKING
CONTACT STATION
PARK ENTRANCE
To White River Jct. - 6 Miles, Route I-89 - 2 Miles
ROUTE U. S. 4
To Woodstock 8 Miles
SCALE
100 50 0 100 200 FEET
LEGEND
CAMPSITE
LEANTO
PRIME SITE
TRASH DUMPSTER & RECYCLING CENTER
STATE OF VERMONT
DEPARTMENT OF FORESTS, PARKS & RECREATION
QUECHEE
STATE PARK
(802) 295-2990
DRAWN BY: R. PRATT
DATE: 3/23/88

CULTURAL RESOURCE MANAGEMENT STUDY

NORTH HARTLAND LAKE



HARTLAND & HARTFORD, VERMONT

MARCH 1986

ABSTRACT

A cultural resource reconnaissance was conducted during the fall of 1985 at North Hartland Lake as one of a continuing series of studies intended to identify cultural resources within properties owned by the U.S. Army Corps of Engineers, New England Division. This study partially fulfills the Division's responsibilities under the National Historic Preservation Act, as amended. Major aspects of this study are described below.

The strategy followed for developing the archaeological context of the North Hartland Lake project area has two major components, one for prehistoric and one for historic sites. For the prehistoric period, general inferences are drawn from the existing archaeological data from eastern Vermont in order to suggest how prehistoric settlement patterns may have changed during the past 10-12,000 years. In addition, we suggest how different approaches to food collection may have determined the types of sites produced by groups in the past. Such patterns should help us to understand the archaeological potential of the project area. This background study, however, is designed to indicate only the kinds and densities of sites one might expect to find, not to predict the specific location of one or more sites. For the historic period, an evolutionary approach, based primarily on the demographic and economic development of Hartland and Hartford, is adopted to identify and assess the potential significance of farmsteads and industrial sites. In order to meet the goals of this study, several distinct types of information have been collected, evaluated and synthesized.

Our assessment involves both a background and field component. A principal component of the general settlement and subsistence models which are developed is the environmental framework within which the known archaeological data are partially integrated. Therefore, a basic environmental perspective is presented, which includes discussions of the Ottauquechee River watershed's physiography, geomorphology, bedrock geology, and post-Pleistocene changes in the region's floral communities, faunal regimes and climate. These data provide a baseline for judging the general prehistoric and historic resource potential for this area of Vermont. Discussions follow which present a hypothetical framework for modeling past subsistence practices and settlement patterns. These are used to suggest the types and density of archaeological sites which are likely to be encountered in the North Hartland Lake project area.

The section of this report which deals with a reconnaissance level field evaluation is introduced by a general discussion of archaeological site survey. It deals with both sampling approaches and sampling methods. This section is intended to help COE personnel and others understand what archaeologists do and how they go about doing it.

The specific sampling scheme related to prehistoric sites at North Hartland Lake is then addressed. As the amount of field time was limited, attention was focused on answering four questions: Are there any prehistoric sites within the project area which can be immediately identified? What is the archaeological potential of designated recreation areas? What portions of the project area have no archaeological potential due to past construction activities, etc.? Are there portions of the project area which warrant further testing in order to locate prehistoric sites? Field methoology involved the excavation of small test pits, the use of a soil sampler to evaluate soil profiles, visual inspection of eroding banks, and survey by boat along the river to check the extent of erosion and to identify potential site and/or sampling locations. Field evaluations for historic period sites involved locating, describing and recording the general condition and structural features present at most site areas. A standard data record form for each historic site is used to summarize available information.

One definite prehistoric site was identified, VT-WN-60. It is located at the upper end of the project area adjacent to a former river channel and a tributary brook. Two additional prehistoric sites, FS-WN-15 and FS-WN-16, may have been found on terraces at stream junctions along the downstream stretch of the river between Quechee Gorge and the dam. Cultural evidence was so limited at these two sites, however, that further work will be needed to verify our conclusions.

Nineteen historic period sites and one site complex, Dewey's Mill, were identified from the background studies. Four of these sites were dismantled or destroyed in the nineteenth or early twentieth century. Fifteen were demolished by the Corps when North Hartland Dam was constructed in 1960-61. The Jedidiah Strong House, a National Register property, was left standing. Of the 20 sites identified, 14 will require further site evaluation involving documentary research, additional informant interviews and field testing before a determination can be made as to whether they are eligible for inclusion on the National Register.

The management section of this report outlines a number of issues which the New England Division of the Corps of Engineers should consider with respect to the cultural resources under its jurisdiction in the North Hartland Lake project area. For the most part, we believe that current management practices are adequately protecting existing archaeological resources. Exceptions are noted. Management issues are addressed which relate to the maintenance of the permanent pool, flood control operations, visitor use, and developing an interpretive program. Recommendations are also made for the implementation of a phased program of field study to complete the archaeological evaluations which are required in order for the Corps to be in full compliance with the National Historic Preservation Act, as amended.

Conclusions

During this survey, two day's time was available to undertake a sampling program intended to locate prehistoric sites. For this reason, attention was focused on answering four immediate questions. Are there some spots within the project area that are so attractive that sites could be located immediately? What is the archaeological potential of specific locales currently used for recreational purposes? What portions of the project area have been so heavily disturbed that sites could no longer be found? And, finally, what effects might project operations or other environmental factors have on the design and implementation of any future archaeological sampling program?

As a preliminary testing strategy, the most logical approach was to sample a few areas which seemed to have a relatively high potential for containing evidence of one or more prehistoric occupations. Level terraces adjacent to tributary streams are assumed to have such a potential. Since most of the terraces at the mouths of streams have been submerged or buried beneath 60 cm or more of recent flood sediments, however, older terraces at slightly higher elevations adjacent to such streams were tested (Test Areas HB, HC). The one stream junction which has not been submerged or buried was also tested (Test Area HE). A final sampling location was on a high level terrace at the base of Quechee Gorge (Test Area HD). A visual inspection of recreation areas was made near the dam and at Quechee Gorge. The general reservoir area was toured by boat to observe the extent of bank slumpage, shore erosion and sedimentation on possible site areas.

One prehistoric site, VT-WN-60, was encountered on the eastern edge of Dewey's Mill Pond. Limited testing recovered one chert flake removed from a stone tool. Two possible prehistoric sites, FS-WN-15 and FS-WN-16, were tentatively identified on terraces of two of the larger tributary streams within the project area. More intensive sampling at all of these areas will be required before the size, age, or integrity of the sites can be defined. No prehistoric remains were recovered from Test Area HD at the base of Quechee Gorge, but it should be noted that testing was insufficient to draw conclusions about the entire landform.

During this archaeological review, particular attention was paid to gathering information about the archaeological potential of areas used on a consistent basis for recreational purposes. There are two areas were recreational activities are concentrated, a day-use area near the dam, and Quechee Gorge. The day-use area near the dam has no archaeological potential. This area was formerly a borrow pit for dam construction and the original soil from the area has been removed. Visitor activities at Quechee Gorge are generally concentrated in areas of very low archaeological sensitivity.

Conclusions

Fourteen historic sites and one site complex (HS 9) were demolished for the North Hartland Lake project. Four others were abandoned or demolished during the nineteenth or early twentieth centuries. One site (HS 10) is a standing structure and has been placed on the National Register of Historic Places. It was nominated to the National Register of Historic Places on its architectural merit, however, and the integrity of any archaeological component has not been investigated.

Results of field observations and documentation indicate that four of the 20 sites do not merit subsurface archaeological evaluations. HS 1-4 have been completely destroyed. Of the remaining sites, five are frequently inundated and are covered with post-1961 flood sediments (HS 5 - 8 and 24). HS 9 - 18 and 23 have never been inundated by a flood impoundment. HS 9 is the site of a large mill complex, which contained mill buildings, warehouses and residences. Only three of the residences might still retain any archaeological components. For HS 5 - 18, 23 and 24, subsurface testing might yield important information about site size, content and integrity of deposits--characteristics which have a direct bearing on a site's archaeological significance and its eligibility for inclusion on the National Register of Historic Places.

REPORT ON UTILIZATION OF CIVIL WORKS LANDS AND FACILITIES

(ER 405 1 12)

DIVISION	DISTRICT	INSPECTION DATE
NEW ENGLAND DIVISION	N/A	23 AUG 1990

1. PROJECT or FACILITY NAME and LOCATION: N. HARTLAND LAKE, N. HARTLAND, VT.

2. PROJECT AUTHORIZATION: FLOOD CONTROL ACT OF 1936

3. TYPE OF PROJECT (Describe): FLOOD CONTROL

4. ACQUISITION CRITERIA: EISENHOWER POLICY

5. TYPE OF BUILDING SPACE: [X] OFFICE [ ] STORAGE [X] PUBLIC USE [ ] GOVERNMENT QUARTERS [ ] OTHER (Specify)

6. TOTAL BLDG. SPACE-CORPS: 13,380 (Sq. Ft)
TOTAL BLDG. SPACE-OTHER (Sq. Ft)

7. ARE THERE ANY ENCROACHMENTS OR OTHER UNAUTHORIZED USES?
[ ] YES (If YES, Explain in Narrative Text of Report) [X] NO

8. IS BUILDING SPACE EFFECTIVELY USED?
[X] YES [ ] NO (If NO, Explain in Report)

9. POOL DATA

ELEVATION (NGVD)	ACRES ABOVE	ACRES BELOW
MINIMUM 394	1617	95
WINTER 410	1542	170
SUMMER 425	1407	305
FLOOD 546.5	612	1100

10. LAND DATA

ACREAGE	ACQUIRED	DISPOSED	CURRENT
FEE	1467	3	1464
EASEMENT	249	1.34	248
RIVERBED			
OTHER			

11. PROJECT DATA

DATE PLACED IN OPERATION: JUNE 1961

TOTAL MILEAGE OF BOUNDARY: FEE 17.7 EASEMENT 8 EST.

% OF BOUNDARY MONUMENTED: FEE 100% EASEMENT 0%

UNUSED OR EXCESS BUILDINGS: [ ] YES [X] NO (If YES, Explain in Report)

EXCESS LANDS: [ ] YES [X] NO (If YES, Explain in Report)

12. ALLOCATION OF LAND AND WATER AREAS / 13. UTILIZATION CLASSIFICATION - ACRES

CATEGORY	OPERATING AGENCY	ACREAGE	OPTIMALLY USED	UNDER USED	NOT USED	OVER USED	NOT PUT TO OPTIMUM USE
PROJECT OPERATION AREAS	COE	170	170				0
RECREATION AREAS	COE / VT.	10 / 100	10 / 100				0
MITIGATION AREAS							
ENVIRONMENTALLY SENSITIVE AREAS							
MULTIPLE RESOURCE MANAGEMENT	COE	467	467				0
" "	VT.	411	411				0
EASEMENT AREAS	VARIOUS	1	1				0
WATER AREAS	COE / VT.	205 / 100	205 / 100				0
OTHER AREAS							

14. PLANS	DATE APPROVED	DATE REVISED	PLANS	DATE APPROVED	DATE REVISED
MASTER PLAN	9 MAY 62		GENERAL PLAN		
OPERATIONAL MGT PLAN (I)			ANNUAL MGT PLAN	1981	
ATIONAL MGT (II)			OTHER		

15. VISITATION DATA

CURRENT YEAR	425,000
PREVIOUS YEAR	515,000
PREVIOUS YEAR	340,500

INSPECTOR (Signature): JAN SZWED Jan Szwed

APPROVED (Chief of REO): RICHARD T. ROGACZYK, CHIEF, REAL ESTATE DIV. Richard T. Rogaczyk

DATE APPROVED: 11/23/90

ENG FORM 3871, Jun 88

PREVIOUS EDITIONS OBSOLETE FORMS 3871 AND 3871-R, JAN 64

REPORT ON UTILIZATION OF CIVIL WORKS LANDS AND FACILITIES

RESUME' OF PROJECT OUTGRANTS

OUTGRANT TYPE	NUMBER	ACREAGE	OUTGRANT TYPE	NUMBER	ACREAGE
AGRICULTURE			PUBLIC PARK & RECREATION	2	612
COMMERCIAL RECREATION			RECREATION QUASI-PUBLIC		
FISH & WILDLIFE			RIGHT OF WAY	4	141
GRAZING			SHORELINE USE PERMITS		
MINERALS			OTHER INFO. PLAZA	1	----
PRIVATE RECREATION			OTHER CIVIL DEF.	1	----

17. PROJECT STAFFING	CORPS	CONTRACTOR	DIRECT OUTGRANT	THIRD PARTY	OTHER
PERMANENT	4	-	-		
SEASONAL		0	1		
TEMPORARY	4	2	-		

18. EXECUTIVE ORDER SURVEYS (Date)		19. INSPECTION HISTORY (Date)	
INITIAL		LAST INSPECTION	3 Aug 89
RE-SURVEY		PREVIOUS	20 Sep 88
RE SURVEY		PREVIOUS	30 Sep 86

20. DATA FOR MOBILIZATION

DISTANCE TO MAJOR MILITARY INSTALLATIONS (Miles) WESTOVER	app. 120	ESTIMATED NUMBER OF BIVOUAC SITES	58
TYPE ACCESS - (1) RAILROAD, (2) AIR, (3) SURFACE HIGHWAY, (4) INTERSTATE	3,4	NUMBER OF CLASS A CAMPSITES	
UTILITY SYSTEMS - (1) WATER, (2) SEWER, (3) ELECTRIC, (4) OIL, (5) GAS	3,4	NUMBER OF CLASS B CAMPSITES	
ESTIMATED AMOUNT OF TIMBER (Bd. ft.)	1,582,250	NUMBER OF PRIMITIVE CAMPSITES	58

21. RESUME' OF PROJECT BUILDINGS AND EXTENT OF USE

BLDG NO	DESIGNATION OR TYPE	SQUARE FT.	YEAR BUILT	COST	EXTENT OF USE	REMARKS
01	HDQRS BUILDING	2,224	1961	30,000	100%	
02	OPERATORS GARAGE	260	1961	2,000	"	AT DAMSITE
03	STORAGE SHED	900	1976	7,623	"	AT DAMSITE VINYL SIDING
04	STORAGE SHED	200	1972	500	"	AT DAM WOOD
05	STORAGE SHED	860	1961	30,000	"	AT DAM METAL
06	STORAGE SHED	1,200	1980	1,000	"	AT DAM WOOD
07	COMFORT STATION	188	1961	5,000	"	AT DAM
08	COMFORT STATION	362	1979	40,361	"	AT COE REC. AREA
09	COMFORT STATION	726			"	AT STATE AREA
10	STATE CARETAKERS QUARTERS	1,080	1961	18,000	"	" " "
11	STORAGE	3,340	1957	1,200	"	" " "
12	PICNIC SHELTER	1,320	89	22,459	"	AT COE REC AREA
13	PICNIC SHELTER	720	89	15,799	"	AT COE REC AREA

North Hartland Lake, VT

Report on Utilization of Civil Works Lands and Facilities Narrative

Numbers in the following items are "estimated":

9. POOL DATA: Acres Above and Acres Below
11. PROJECT DATA: Total Mileage of Boundary - Easement
12. ALLOCATION OF LAND AND WATER AREAS: All of the Acreage Figures
17. PROJECT STAFFING - Figures are for the N. Hartland-Union Village Complex

DISTRIBUTION:
P&C Dir (Orig)
Oper Dir
BM/UCRB
PM/North Hartland
R.E. Dir
Conv Dir

REF OF COMPLIANCE INSPECTION - OUTGRANTS

INST ON OR PROJECT AND LOCATION
N. land Lake
N. land, VT

DISTRICT
New England Division

TYPE OF INSTRUMENT	CONTRACT NUMBER	GRANTEE	PURPOSE	TERM FROM	TERM TO	CORR ACTN RECOMME YES	NO
License	DACW33-3-72-4	Central Vermont Pub Serv Corp	Right to trim & anchor guys for poles 116 & 117 near Tr A-106	1 Aug 71	31 Jul 91		X
Easement	DACW33-2-73-26	Town of Hartland	RW for drainage ditch (Harlow Brook at Clay Hill Rd)	27 Oct 72	26 Oct 22		X
License	DA19-016-CIVENG-63-177	Town of North Hartland	Use of Control Tower for Civil Defense purpose	7 Feb 63	Indefinite		X
Lease	DA19-016-CIVENG-66-131 SA No. 2	St of Vermont Pub Park and Rec, Fish & Wildlife & Forest Mgmt.	Rec, Fish & Wildlife (612 A)	1 June 90	31 May 2013		X
Easement	DACW33-2-79-38	State of Vermont	Sloping easement por tr B-200 (0.4A)	22 Jan 79	Indefinite		X
License	DACW33-3-83-44	Quechee Chamber of Commerce	Pub Park & Rec	1 Mar 83	28 Feb 93		X
Easement	DACW33-2-85-39	State of Vermont	Perp ROW (1.02A)	26 Sep 85	Indefinite		X
Easement*	DACW33-3-87-40	George Wood	ROW 12'x53'	20 Jul 87	19 Jul 92	X	

* This property may have been sold to Mrs. Wood

The outgrants listed above have been visually inspected and noted particularly as to maintenance, repair, condition of property, utilization, additions or alterations, and for any unauthorized use, transfer or assignment of interest. The grantees are complying with the terms of the respective instruments in all cases which show no corrective action recommended *(cases shown as recommending corrective action, indicate noncompliance in some respects, and a separate report on ENG Form 3131 is attached)*.

REPORT APPROVED *(Signature of Chief, RE Division)*
RICHARD T. BOGACZYK
Chief, Real Estate Directorate

SIGNATURE OF INSPECTOR
JAN SZWED

INSPECTED WITH *(If Applicable)*

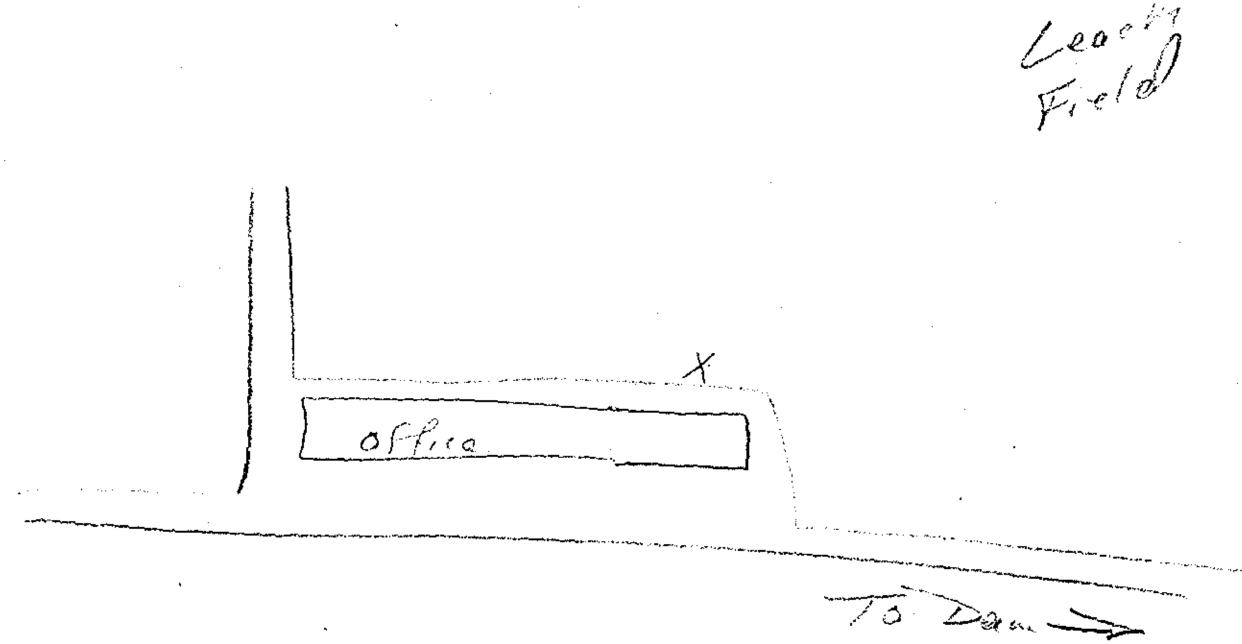
NAME	TITLE	TELEPHONE NO
MARK ROSENTHAL	Acting Park Manager	802-295-2855

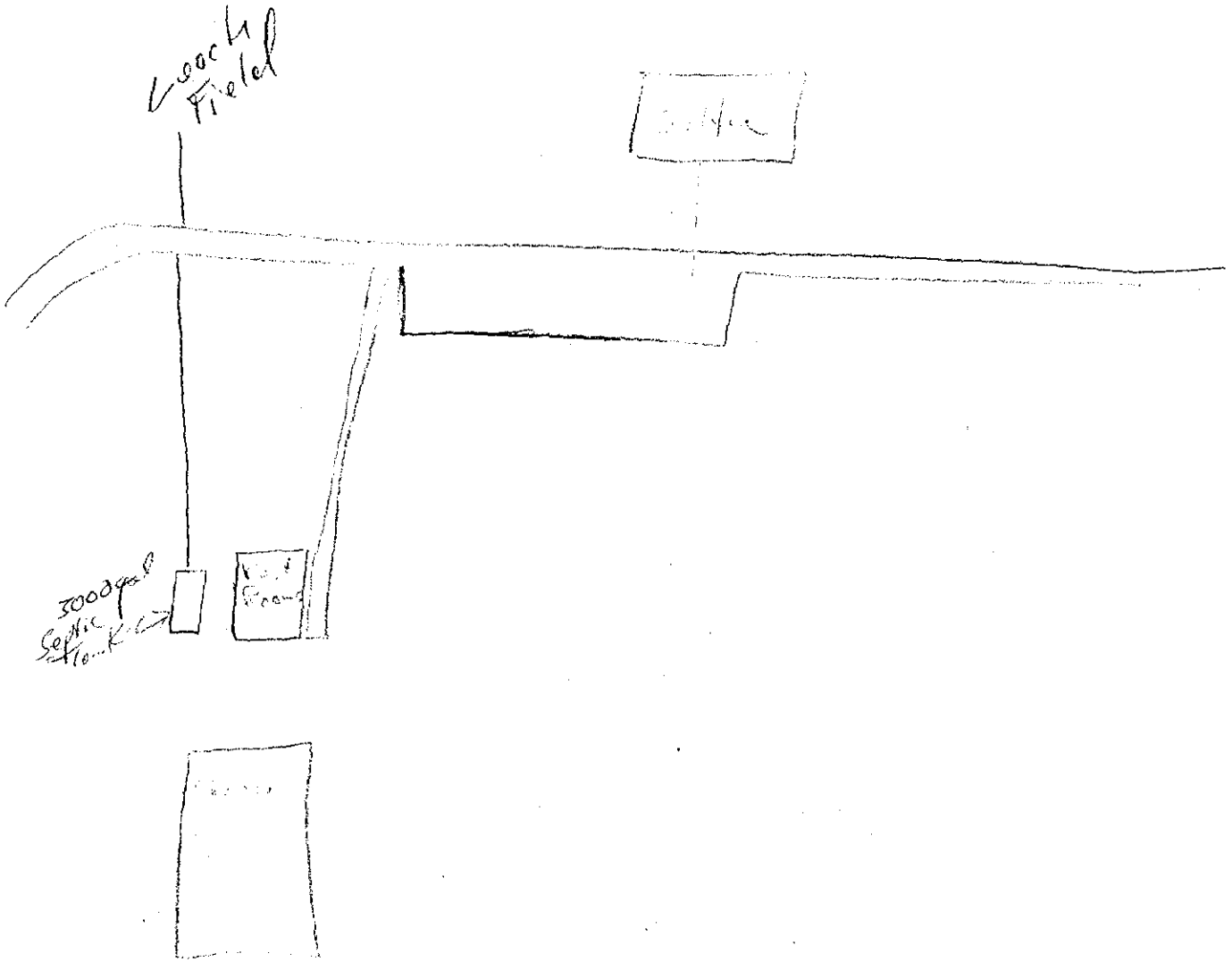
ENG FORM 3560, Nov 87 EDITION OF 1 MAY 82 IS OBSOLETE SHEET 1 OF 1 SHEETS

NHL

X-2165T

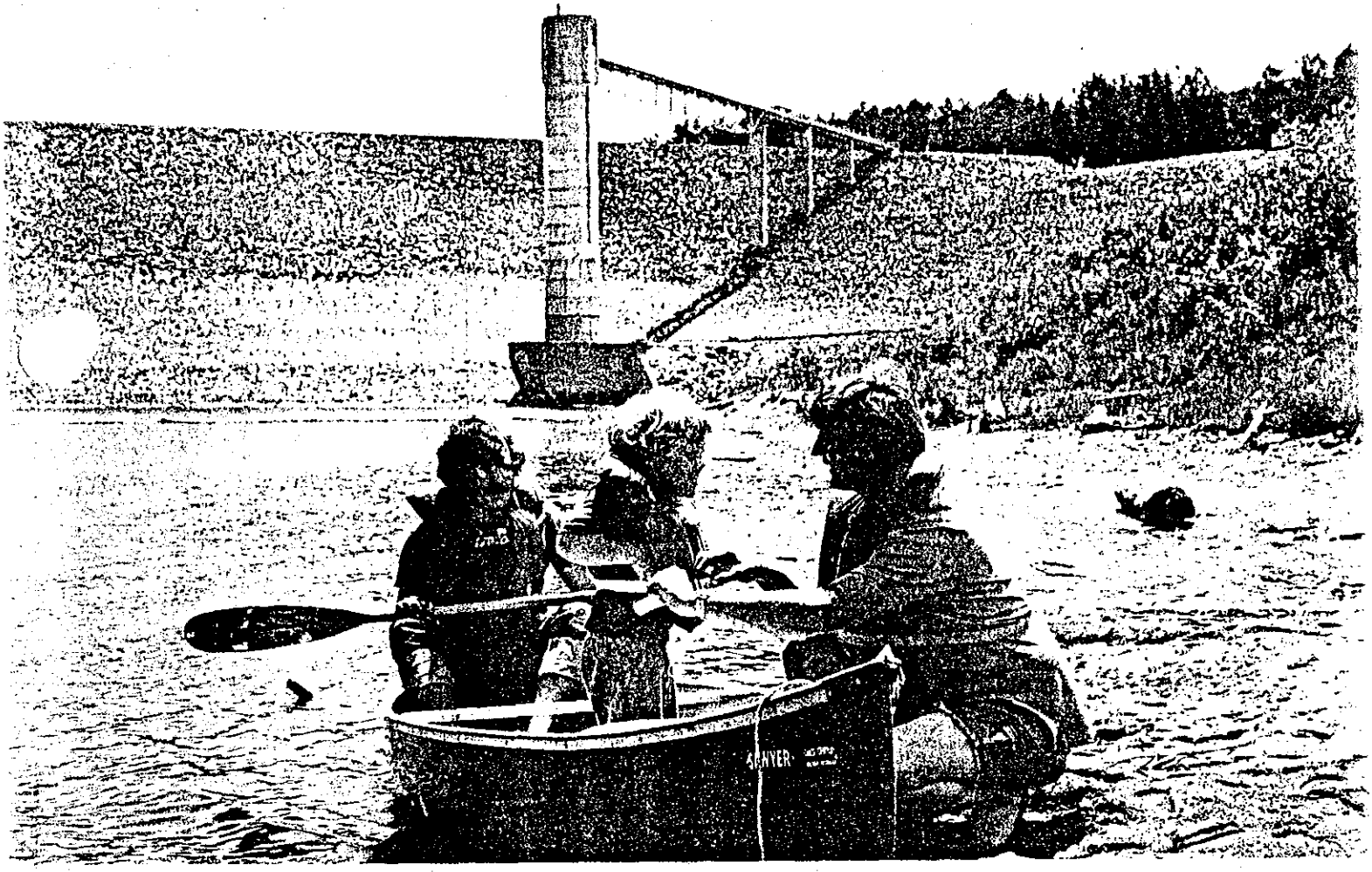
Tank is 500 or 750 gal




Leach Field
3000gal
Septic Tank

PROJECT PLAN
FOR RECREATION RESOURCES DEVELOPMENT

NORTH HARTLAND LAKE
HARTLAND AND HARTFORD, VERMONT



DESIGN MEMORANDUM
1981

US Army Corps of Engineers
New England Division

NORTH HARTLAND LAKE

HARTLAND AND HARTFORD, VERMONT

FOREST MANAGEMENT PLAN

MASTER PLAN APPENDIX B

AND

FISH AND WILDLIFE MANAGEMENT PLAN

MASTER PLAN APPENDIX D

Department of the Army
New England Division, Corps of Engineers
Operations Division
Waltham, Massachusetts 02254

September 1982

REPORT ON UTILIZATION OF CIVIL WORKS LANDS AND FACILITIES
(ER 405-1-12)

DIVISION	DISTRICT	INSPECTION DATE
New England Division	N/A	23 AUG 90

PROJECT or FACILITY NAME and LOCATION: Union Village Dam, Union Village, VT

2. PROJECT AUTHORIZATION: Flood Control Act of 1936

3. TYPE OF PROJECT (Describe): Flood Control

4. ACQUISITION CRITERIA: Pre-Eisenhower Policy

5. TYPE OF BUILDING SPACE: [X] OFFICE [X] STORAGE [ ] PUBLIC USE [ ] GOVERNMENT QUARTERS [ ] OTHER (Specify)

6. TOTAL BLDG. SPACE-CORPS (Sq Ft): 3,999
TOTAL BLDG SPACE-OTHER (Sq Ft): 0

7. ARE THERE ANY ENCROACHMENTS OR OTHER UNAUTHORIZED USES? [ ] YES (If YES, Explain in Narrative Text of Report) [X] NO

8. IS BUILDING SPACE EFFECTIVELY USED? [ ] YES [X] NO (If NO, Explain in Report)

9. POOL DATA

ELEVATION (NGVD)	ACRES ABOVE	ACRES BELOW
MINIMUM 422	939	40
WINTER 440	929	50
SUMMER 424	939	40
FLOOD 564	239	740

10. LAND DATA

ACREAGE	ACQUIRED	DISPOSED	CURRENT
FEE	1292	313	975
EASEMENT	4	---	4
RIVERBED			
OTHER			

11. PROJECT DATA

DATE PLACED IN OPERATION: June 1950
TOTAL MILEAGE OF BOUNDARY: FEE 14.4 EASEMENT 0.4 EST.
% OF BOUNDARY MONUMENTED: FEE 99.0 EASEMENT 0
UNUSED OR EXCESS BUILDINGS: [ ] YES [X] NO (If YES, Explain in Report)
EXCESS LANDS: [ ] YES [X] NO (If YES, Explain in Report)

12. ALLOCATION OF LAND AND WATER AREAS / 13. UTILIZATION CLASSIFICATION - ACRES

CATEGORY	OPERATING AGENCY	ACREAGE	OPTIMALLY USED	UNDER USED	NOT USED	OVER USED	NOT PUT TO OPTIMUM USE
PROJECT OPERATION AREAS	COE	100	100				0
RECREATION AREAS	COE	12	12				0
MITIGATION AREAS							
ENVIRONMENTALLY SENSITIVE AREAS							
MULTIPLE RESOURCE MANAGEMENT	COE	767	767				0
EASEMENT AREAS	VARIOUS	56	56				0
WATER AREAS	COE	40	40				0
OTHER AREAS							

14. PLANS

PLANS	DATE APPROVED	DATE REVISED	PLANS	DATE APPROVED	DATE REVISED
MASTER PLAN	MAR 1980		GENERAL PLAN		
OPERATIONAL MGT PLAN (I)			ANNUAL MGT PLAN		
OPERATIONAL MGT PLAN (II)			OTHER		

15. VISITATION DATA

CURRENT YEAR	116,200
PREVIOUS YEAR	134,000
PREVIOUS YEAR	139,500

INSPECTOR (Signature)	APPROVED (Div. Chief of R.E.)	DATE APPROVED
JAN SZWED *Jan Szwed*	RICHARD T. BOGACZYK, CH., REAL ESTATE DIR. *(signature)*	11-23-90

ENG FORM 3871, Jun 88 REPLACES ENG FORMS 3871 AND 3871A, JAN 68

REPORT ON UTILIZATION OF CIVIL WORKS LANDS AND FACILITIES

16. RESUME' OF PROJECT OUTGRANTS

GRANT TYPE	NUMBER	ACREAGE	OUTGRANT TYPE	NUMBER	ACREAGE
RICULTURE			PUBLIC PARK & RECREATION		
COMMERCIAL RECREATION			RECREATION QUASI-PUBLIC		
FISH & WILDLIFE			RIGHT OF WAY	3	4.03
GRAZING	1	47	SHORELINE USE PERMITS		
MINERALS			OTHER BEAUTIFICATION	3	----
PRIVATE RECREATION			OTHER	3	5

17. PROJECT STAFFING	CORPS	CONTRACTOR	DIRECT OUTGRANT	THIRD PARTY	OTHER	18. EXECUTIVE ORDER SURVEYS (Date)		19. INSPECTION HISTORY (Date)	
PERMANENT	4					INITIAL	July 88	LAST INSPECTION	4 Aug 89
SEASONAL	-					RE-SURVEY		PREVIOUS	7 Jul 88
TEMPORARY	4	1				RE SURVEY		PREVIOUS	26 Sep 86

20. DATA FOR MOBILIZATION

DISTANCE TO MAJOR MILITARY INSTALLATIONS (Miles)	120	ESTIMATED NUMBER OF BIVOUAC SITES	0
TYPE ACCESS - (1) RAILROAD, (2) AIR, (3) SURFACE HIGHWAY, (4) INTERSTATE	3,4	NUMBER OF CLASS A CAMPSITES	
UTILITY SYSTEMS - (1) WATER, (2) SEWER, (3) ELECTRIC, (4) OIL, (5) GAS	3,4	NUMBER OF CLASS B CAMPSITES	
MATED AMOUNT OF TIMBER (Bd. ft.)	7,140,32	NUMBER OF PRIMITIVE CAMPSITES	

21. RESUME' OF PROJECT BUILDINGS AND EXTENT OF USE

BLDG NO	DESIGNATION OR TYPE	SQUARE FT.	YEAR BUILT	COST	EXTENT OF USE	REMARKS
01	Headquarters Building	2,240	1951	16,888	100%	
02	Operators Garage	484			"	
03	Storage Shed	315			"	
04	Explosive Storage	300			"	
05	Garage	300			"	Aluminum Siding
06	Comfort Station	360			"	Rec. area at entrance to dam

Union Village Dam, VT

Report on Utilization of Civil Works Lands and Facilities
Narrative, 3 October 1990

Numbers in the following items are "estimated":

9. POOL DATA: acres Above and Acres Below
11. PROJECT DATE: Total Mileage of Boundary - Easement
12. ALLOCATION OF LAND AND WATER AREAS: All of the Acreage Figures
17. PROJECT STAFFING: Figures are for the N. Hartland - Union Village Complex

DISTRIBUTION:
P&C Dir (Orig)
Oper Dir
BM/UCRB
PM/Union Village
R.E. Dir
Conv Dir

REPORT OF COMPLIANCE INSPECTION - OUTGRANTS

INSTALLATION OR PROJECT AND LOCATION: Union Village Dam, Union Village, VT

DISTRICT: New England Division

DATE OF INSPECTION: 3 Oct 90

TYPE OF INSTRUMENT	CONTRACT NUMBER	GRANTEE	PURPOSE	TERM FROM	TERM TO	CORRECTIVE ACTION RECOMMENDED YES	CORRECTIVE ACTION RECOMMENDED NO
Easement	DA-19-016 CIVENG-161	Central Vermont Public Service Company	R/W for install. & Maint., elec light poles (0.73A)	29 Apr 52	28 Apr 02		X
Lease	DACW33-1-90-28	Francis G. Clark	Pasture, grazing, hay Portion Tr 17 (47A)	22 May 90	21 May 95		X
Easement	DA-19-016-CIVENG-159	Jay E. Hanna, et al	30 ft. road R/W (Tracts 42 and 43)	22 Sep 49	Perpetual		X
Lease	DACW33-1-72-53	Edward LaMontagne	Spring for Water (Tract No. 45)	23 May 71	22 May 91		X
Easement	W-19-016-CIVENG-2628	Town of Thetford, Vt	R/W for road (3.3A)	29 Jun 50	Perpetual		X
License	DACW33-3-67-54	Town of Thetford, Vt	Use of intake structures as fallout shelter	28 Oct 66	Indefinite		X
Letter Permit	Dtd 6 Dec 68	Bernard Fifield	Beautification Tr 54	6 Dec 68	Indefinite		X
Letter Permit	Dtd 21 Jul 75	Elizabeth Gurlitz	Beautification Tracts 61 & 63	21 Jul 75	Indefinite		X
Letter Permit	Dtd 22 Oct 68	Margaret Schart	Beautification Tract 63	22 Oct 68	Indefinite		X
License	DACW33-3-86-20	Wm. G. B. Graham Lake Rd., Charlotte VT	5 A on Tr 40	10 Aug 86	9 Aug 91		X

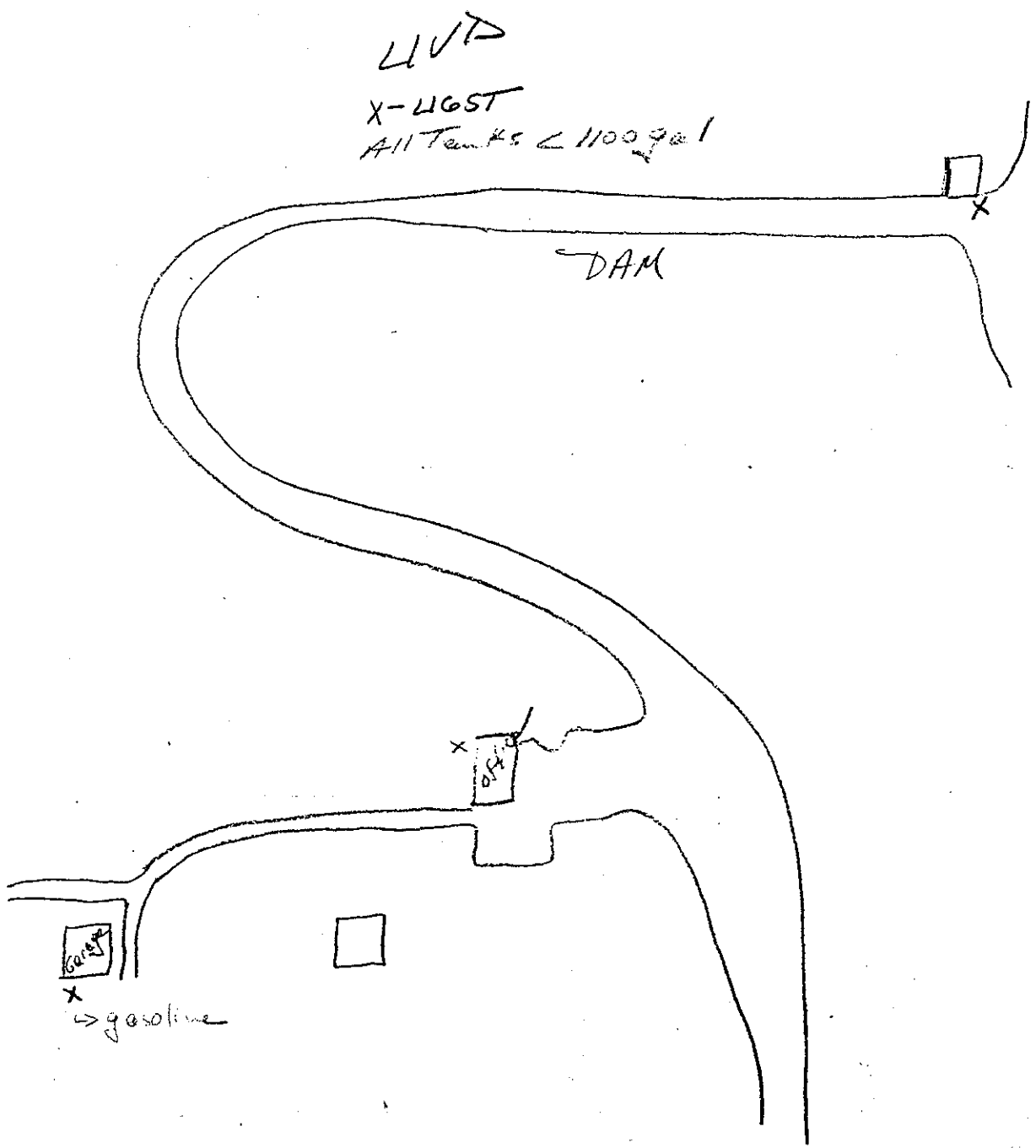
The outgrants listed above have been visually inspected and noted particularly as to maintenance, repair, condition of property, utilization, additions or alterations, and for any unauthorized use, transfer or assignment of interest. The grantees are complying with the terms of the respective instruments in all cases which show no corrective action recommended *(cases shown as recommending corrective action, indicate noncompliance in some respects, and a separate report on ENG Form 3131 is attached).*

REPORT APPROVED *(Signature of Chief, RE Division)*
RICHARD M. BOGACZYK
Chief, Real Estate Directorate

SIGNATURE OF INSPECTOR
JAN SZWED Jan Szwed

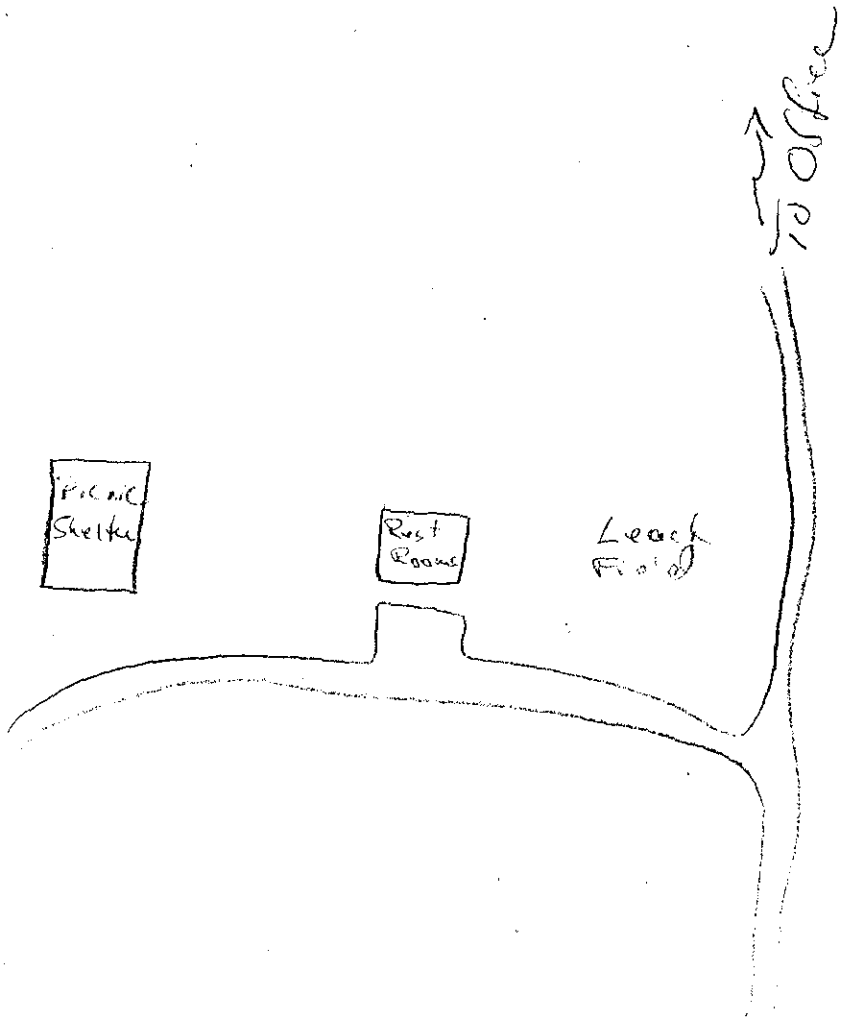
INSPECTED WITH *(If Applicable)*

NAME	TITLE	TELEPHONE NO
MARK ROSENTHAL	Acting Park Manager	649-1606


LVD
X-UGST
All Tanks < 1100 gal
DAM
Office
Garage
=> gasoline

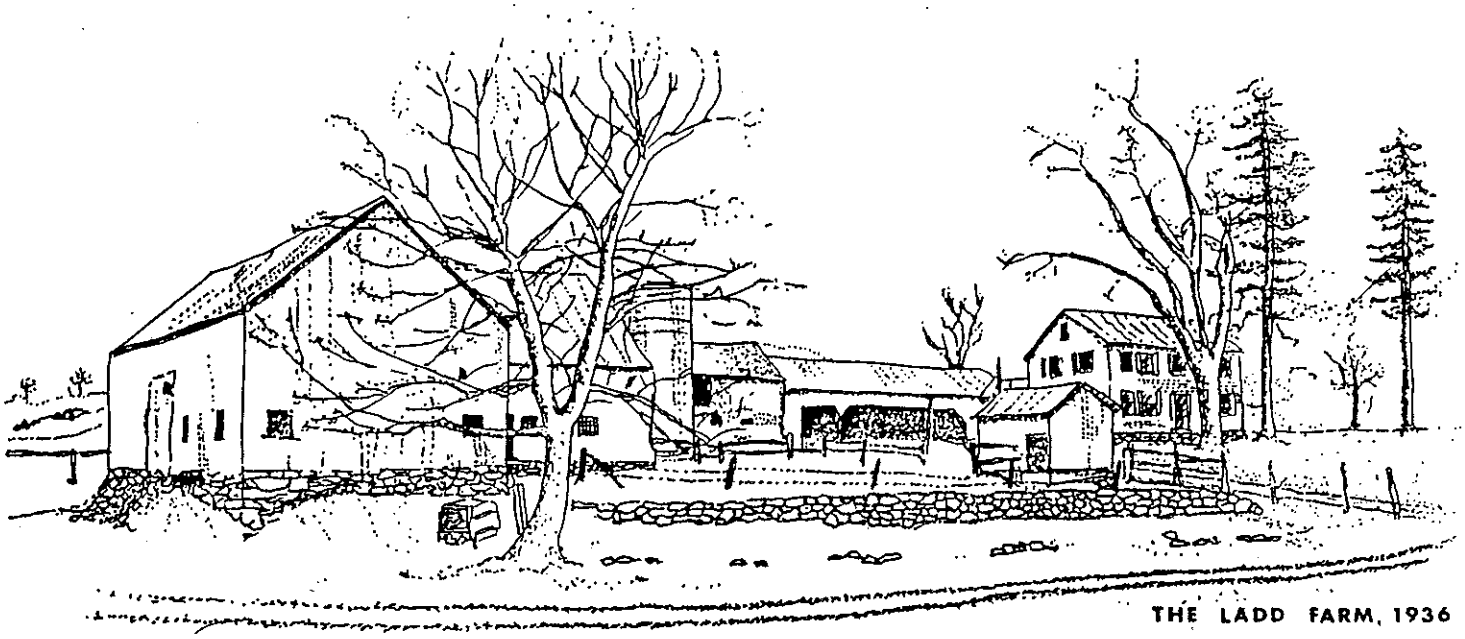
LIVE

Entrance Picnic Area



CULTURAL RESOURCE MANAGEMENT STUDY

UNION VILLAGE DAM

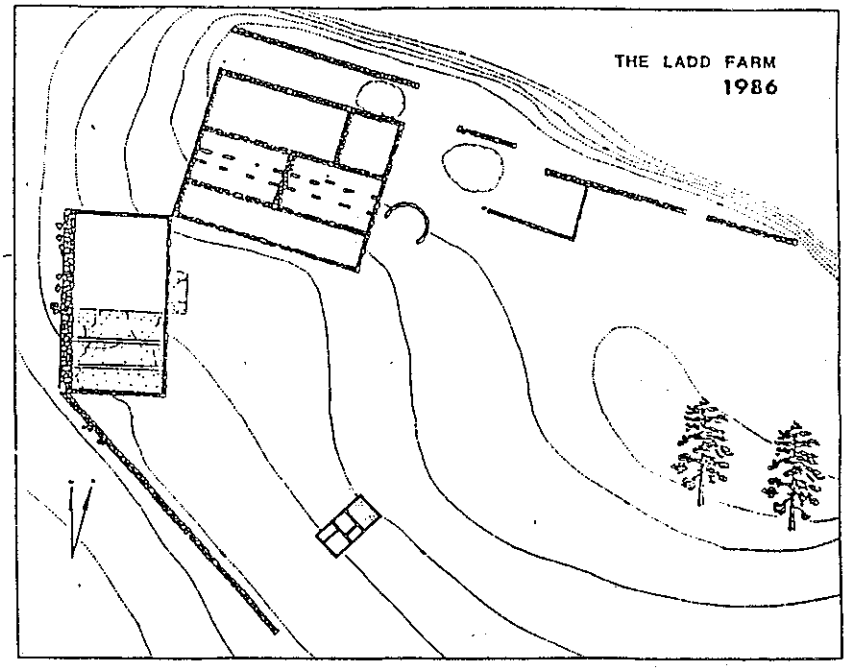


THE LADD FARM, 1936

THETFORD,

VERMONT

FEBRUARY, 1986



ABSTRACT

A cultural resource reconnaissance was conducted during the fall of 1985 at Union Village Dam as one of a continuing series of studies intended to identify cultural resources within properties owned by the U.S. Army Corps of Engineers, New England Division. This study partially fulfills the Division's responsibilities under Section 206 of the National Historic Preservation Act, as amended. Major aspects of this study are described below.

As conservation archaeology constitutes much of the archaeological research presently being conducted, it is essential that research should not only provide the Corps of Engineers with information relevant to its management needs but it should also provide information relative to disciplinary goals. This cultural resource management study for Union Village Dam is structured in such a way that both goals are addressed.

The strategy followed for developing the archaeological context of the Union Village Dam project area has two major components, one for prehistoric and one for historic sites. For the prehistoric period, general inferences are drawn from the existing archaeological data from southern and eastern Vermont in order to suggest how prehistoric settlement patterns may have changed during the past 10-12,000 years. In addition, we suggest how different approaches to food collection may have determined the types of sites produced by groups in the past. Such patterns should help us to understand the archaeological potential of the project area. This background study, however, is designed to indicate only the kinds and densities of sites one might expect to find, not to predict the specific location of one or more sites. For the historic period, an evolutionary approach, based primarily on the demographic and economic development of Thetford, is adopted to identify and assess the potential significance of farmsteads and industrial or commercial sites.

In order to meet the goals of this study, several distinct types of information have been collected, evaluated and synthesized. Our assessment involves both a background and field component. A principal component of the general settlement and subsistence models which are developed is the environmental framework within which the known archaeological data are partially integrated. Therefore, a basic environmental perspective is presented, which includes discussions of the Ompompanoosuc watershed's physiography, geomorphology, bedrock geology, and post-Pleistocene changes in the region's floral and faunal communities and climate. These data provide a baseline for judging the general prehistoric and historic resource potential for this area of Vermont. Discussions follow which present a hypothetical framework for

modeling past subsistence practices and settlement patterns. These are used to suggest the types and density of archaeological sites which are likely to be encountered in the Union Village Dam project area.

The section of this report which deals with a reconnaissance level field evaluation is introduced by a general discussion of archaeological site survey. It deals with both sampling approaches and sampling methods. This section is intended to help COE personnel and others understand what archaeologists do and how they go about doing it.

The specific sampling scheme related to prehistoric sites at Union Village Dam is then addressed. As the amount of field time was limited, attention was focused on answering four questions: Are there any prehistoric sites within the project area which can be immediately identified? What is the archaeological potential of designated recreation areas? What portions of the project area have no archaeological potential due to past construction activities, etc.? Are there portions of the project area which warrant further testing in order to locate prehistoric sites? Field methodology involved the use of small test pits, a soil tube sampler to evaluate soil profiles, and backhoe trenches in areas of heavy siltation. Field evaluations for historic period sites involved locating, describing and recording the general condition and structural features present at most site areas. A standard data record form for each historic site is used to summarize all available information.

No definite prehistoric sites have been identified. One possible site was identified on a high terrace (Test Area UA) on the east side of the river overlooking the valley. A second possible site was identified on the floodplain along the West Branch in a backhoe trench (Trench 6). In both instances, further work is needed to confirm the existence of each site. Forty historic period sites were identified from the background studies. Seven of these sites have been completely destroyed. Seven, mostly bridges, have no below ground archaeological component; one is listed on the National Register of Historic Places. Two sites have been partly destroyed as a result of road construction or gravel removal, while one site is part of a larger farm complex outside COE property. Of the twenty-three remaining sites, further site evaluation involving documentary research, additional informant interviews and field testing will be required before a determination can be made as to whether they are eligible for inclusion on the National Register.

The management section of this report outlines a number of issues which the New England Division of the Corps of Engineers should consider with respect to the cultural resources under its jurisdiction in the Union Village Dam project area. For the most part, we believe that current management practices are adequately protecting existing archaeological resources. Possible exceptions are noted. Management

issues are addressed which relate to the maintenance of the winter pool, flood control operations, visitor use, agricultural leasing, logging, sand and gravel removal, soil stabilization and supplementing an existing interpretive program. Recommendations are also made for the implementation of a phased program of field study to complete the archaeological evaluations which are required in order for the Corps to be in full compliance with the National Historic Preservation Act, as amended, and related legislation.

Conclusions

During this survey, less than a day's time was available to undertake a sampling program intended to locate prehistoric sites. For this reason, attention was focused on answering four immediate questions. Are there some spots within the project area that are so attractive that sites could be located immediately? What is the archaeological potential of specific locales currently used for recreational purposes? What portions of the project area have been so heavily disturbed that sites could no longer be found? And finally, what effects have project operations had on the design and implementation of any archaeological sampling program?

As a preliminary testing strategy, the most logical approach was to sample a few areas which seemed to have a relatively high potential for containing evidence of one or more prehistoric occupations. Level terraces adjacent to a tributary stream are assumed to have such potential. One site may have been encountered in Test Area UA, but the evidence is equivocal and further testing should be conducted before any conclusion is reached. Prior testing in 1983 using backhoe trenches led to the identification of a possible site on the floodplain along the West Branch, about 430 m upstream from its junction with the East Branch of the Ompompanoosuc. Again, the presence of a cobble and an associated buried A horizon in Trench 6 opens the possibility that a site exists in this immediate area, but confirmation is needed. Background research did not lead to the identification of any recorded prehistoric sites and local informants are not cognizant of any prehistoric artifacts that have been found in this portion of the Ompompanoosuc valley. Thus, no clear evidence currently exists that prehistoric sites are located within the COE project area.

During this archaeological review, particular attention was paid to gathering information about the archaeological potential of areas used on a consistent basis for recreational purposes. There are few such areas associated with Union Village Dam (Figure 11). These include: 1) a picnic area located on a terrace adjacent to the East Branch, just upstream from the confluence of the West and East Branch (HS 20); 2) a small floodplain adjacent to the East Branch used for picnicking (Terrace E); a parking area, short trail and beach area near the old woolen mill (HS 40); 4) a small terrace used for parking for the Union Village Mystery Trail (Terrace D); and 5) a small terrace and sandy beach used for swimming (Terrace C). Some evaluation of each area's archaeological potential has been completed. Conclusions and recommendations are presented in the management section of this report.

By using a combination of intensive background research, interviews with the project manager (Dick Thresher) and COE ranger (Mark Rosenthal), and a fairly extensive walkover of the more accessible portions of the project area, a number of locales have been identified which have been so heavily disturbed that they no longer possess any

At the falls at Thetford Center, three sites have been identified: an eighteenth-century sawmill (HS 33), a grist mill (HS 35) and a blacksmith's shop (HS 32). The other businesses at the falls have been combined as one site (HS 36) as little specific information is easily available about numbers of buildings or lengths of occupation. There may be some limited evidence of the sawmill. A deep cut in the rock may be a wheelpit and some nearby undulating ground is probably associated with the foundation of this 1772 mill. A dam, a large stone retaining wall and some obviously disturbed ground represent the grist mill. There is no surface evidence for the blacksmith shop. Some stone retaining walls mark the area where other shops and mills may have been located.

The last historic site (HS34) in this area is still standing. It is a Haupt-truss covered bridge which is listed on the National Register of Historic Places.

Conclusions

Results of the field reconnaissance indicate that surface evidence remains at over three-fourths of the historic sites in the Union Village Dam project area (Table 5). Only those sites in primary dam construction borrow areas or in post-1950 gravel pits have been destroyed or greatly disturbed. In non-construction areas, where the Corps removed structures, little surface disturbance is evident. There are also several nineteenth-century mills with structural remains in good condition. There are no visible structural remains at 12 sites. Some evidence (structural, topographic, vegetative or artifactual) was found at 23 sites. Five sites (HS 8, 9, 11, 39 and 44) were not field checked.

Results of field observation and documentation indicate that 17 of the 40 historic sites do not merit subsurface archaeological investigation. HS 1, 2, 3, 4, 6, 7 and 43 have been completely destroyed; HS 10, 14, 18, 24, 34, 41 and 42 have no below ground archaeological component; HS 5 and 22 have been at least partly removed as a result of road construction or gravel removal. Finally, HS 12 is part of a larger farm complex which lies outside of Corps property. Although subsurface testing is unwarranted, HS 10, 18, 24, 41 and 42 should be photographed and possibly drawn to scale. HS 34 is already listed on the National Register of Historic Places. At the remaining sites, subsurface testing might yield important information about site size, content and integrity of deposits--characteristics which have a direct bearing on a site's archaeological significance and its eligibility for inclusion on the National Register of Historic Places.

Name of Product	Use	Chemical Composition	Hazard	Quantity on Hand	Is Product Still Usable yes/no	Quantity Used/yr	Quantity Discarded/yr
UNION Village							
UVD Cobot Stain	Tables	UNKNOWN	Flamable	14 gal	yes	?	N/A
Spray cans So-Sure	what ever	OZONE safe	"	100 - 10 oz cans	"	?	N/A
Thecoder	TREE Marking	ink	Combustible	5 cases 12 qt per	"	?	N/A
Southern coating	Tree	Lead	Flamable	14 qts	NO	NONE	NONE
house paint	Buildings	UNKNOWN		10 gal	yes	5 or 6 gal	NONE
Bridge paint	Bridge skimosil	UNKNOWN	Elamable	4 gal	yes	?	NONE
HAMMERITE Thinner	Bridge "	HYDROCARBONS TRICHLOROETHANE	Flamable	3 gal	yes	?	NONE
Cleaning solvent	Cleaning	solvent	"	4-5 gal	yes	3 gal	"
Deodorant Sprayer	Deodorant	Aerosol	"	7 cans [illegible]	yes	5 or 6 cans	"
Turpentine	Do not use		?	1-5 gal	yes	—	—
Floor wax	" " "		?	2 - 5 qt	?		
Anti freeze	Trucks + [illegible]	?	NOT Flamable	12 - 1 gal	yes	12 gal	NONE
North [illegible] Lake							
Insect Fog	Kill bugs	INSECTICIDE	Flameable	1 qt	yes	1 can	NONE
John Deer	Grease	NONE		15 Cartridges	yes	1 Doz	NONE
Paint	For project	Latex + Enamel	NOT Latex Flameable Enamel	38 gal	yes	6 to 8 gal	NONE
ortho Flower spray	Plants + Trees				yes	2 or 3 cans	NONE
WASP Killer	Kill wasp	Phenol methyl carbamate	Flameable	2 - 12 oz cans	yes		NONE
Turpentine	Project			6 gal	yes	1 or 2 gal	NONE
VARNISH	"		Flameable	4 qts	yes	1 qt	NONE
oil Tinting	Project			2 qt	yes	NONE	NONE
Form [redacted] Gasket	Trucks etc		Flameable	1 qt	yes	when needed	NONE
Black Top Sealer	Project		NO	2 gal	"	" "	"
Shellac	Project		Flameable	2 gal	"	" "	"
Hood Bonding Primer	Trucks		"	1 gal	"	" "	"
Paint Tree	Tree marking	Lead	Lead	7 cases 29 - pts	"	2 cases 24 pts	"
Brake + Gas Line Anti Freeze	Trucks				"		"
GUNK Degreaser	Trucks		Flameable	2 gal	"	1 gal	

CLEANING SOLVENT	CLEANING	SOLVENT	"	4-5 GAL	yes	2 GAL	"
DEODORANT GENERAL	DEODORANT	AEROSOL	"	7 CANS 1/2 T	yes	5 or 6 CANS	"
TURPENTINE	DO NOT USE		?	1-5 gal	yes		
FLOOR WAX	" " "		?	2-5 QT	?		
ANTI FREEZ	TRUCKS & GEN.	?	NOT Flamable	12-19 gal	yes	12 GAL	NONE
North Haelland Lake							
INSECT FOG	Kill Bugs	INSECTICIDE	Flameable	1 QT	yes	1 CAN	NONE
JOHN DEER	GREASE	NONE		15 CAR Tubes	yes	1 DOZ	NONE
PAINT	For PROJECT	LATEX + ENAMEL	NOT LATEX Flameable ENAMEL	38 gal	yes	6 To 8 gal	NONE
ORTHO FLOWER SPRAY	PLANTS & TREES				yes	2 OR 3 CANS	NONE
WASP KILLER	KILL WASP	Phenol METHYLCARBAMate	Flameable	2 12 OZ CANS	yes		NONE
TURPENTINE	PROJECT			6 gal	yes	1 or 2 gal	NONE
VARNISH	"		Flameable	4 QT	yes	1 QT	NONE
OIL TINTING	PROJECT			2 QT	yes	NONE	NONE
FORM a GASKET	TRUCKS ETC		Flameable	1 QT	yes	when NEEDED	NONE
BLACK TOP SEALER	PROJECT		NO	2 gal	"	" "	"
SHELLAC	PROJECT		Flameable	2 gal	"	" "	"
HOOD BONDING PRIMER	TRUCKS		"	1 gal	"	" "	"
PAINT TREE	TREE MARKING	Lead	Lead	7 CASES 29-PTS	"	2 CASES	"
					"	24 PTS	"
RADIATOR LINE ANTI FREEZE	TRUCKS						
GUNK DEGREASER	TRUCKS		Flameable	2 gal	"	1 gal	"
KEROSENE	SPACE HEATER		"	5-5 gal CANS	"	2-5 gal	"
JD Gard Oil	DOZER-TRACTOR		"	35 gal	"	15 & 20 gal	"
MOTOR OIL - JOHN DEER	" - "		"	35 QTS	"	20 TO 50	"

Planning Division
Basin Management Branch

SUBJECT: COMMENTS, Project No. 9085.

Mr. Kenneth F. Plumb, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, DC 20426

Dear Mr. Plumb:

This is in reply to the Commission's notice of December 16, 1985 concerning the application for a minor license filed by Mr. Richard Balagur for the proposed hydroelectric generating facility to be known as the Great Falls Project, FERC No. 9085, located on the Ompompanoosuc River in the community of Thetford in Orange County, Vermont.

The Proposed project would utilize an existing dam on the Ompompanoosuc River within the Corps of Engineers Union Village Dam project reservoir. The site is located approximately 2.8 miles upstream of the Union Village flood control dam. The applicant proposes to construct an intake facility on the westerly side of the existing, partially-breached, concrete dam; a 4.5 foot diameter, 400-foot long penstock leading to a proposed powerhouse which would contain two turbine-generator units having a total installed capacity of 250 kilowatts (kw) and a short tailrace at the juncture or the westerly and middle channels of the river. The estimated average annual energy generation is 1,450,000 kilowatt-hours.

It is understood that the operation of the project will be run-of-river and will not create an impoundment. The proposed project structures would be designed to withstand stress and bouyancy caused from submersion during periods of flood control operations.

The existing Covered Bridge Dam and its water rights were purchased by the Federal Government for flood control rights to the Union Village Dam Flood Control Project. The granting of a license by FERC would obviate any necessity of a real estate instrument between the applicant and the Corps.

As part of the project application package, the Corps received and reviewed a report detailing a historical study of the sawmill on the west bank of the proposed project area. Although the applicant did perform some historic and archaeological investigations, the Corps would recommend further historic and archeological investigations be performed in the following area:

a: West bank sawmill, including potential related subsurface remains adjoining the visible wheelpit.

b: Prehistoric reconnaissance of areas of moderate to high site potential which would be impacted by project construction or operation.

c: Blacksmith shop area, if impacted by access or transmission lines.

d: East bank access area, provided that historic research indicates potential subsurface historic remains.

By studying documents relating to mills in the area a better understanding of periods of operations, types, location and expected archaeological remains would be possible and could assist the applicant in further historic or archaeological investigations.

The proposed project will not affect existing reservoir regulation procedures and will not result in significant loss of flood control storage at Union Village Dam. During final design stages, the applicant (licensee) should engage in meaningful discussions with this office to ensure the proposed construction and/or operation activities have a minimal impact upon the environment within the reservoir area. The Corps requests that any license issued require the licensee to develop and sign a Memorandum of Agreement (MOA) concerning the construction, operation and maintenance of the proposed project with the New England Division of the Corps of Engineers.

The Ompompanoosuc River has not been declared to be a navigable water of the United States. The data submitted with the application does not clearly indicate what work, if any, will be done in the river and/or wetlands under the license application. If this project will involve the discharge of dredged or fill material, either permanent or temporary into water or wetlands of the United States, a permit will be required under Section 404 of the Clean Water Act. However, the NED Corps of Engineers has issued Regional General Permit No. 38, which authorizes the discharge of fill material for fills associated with the development or expansion of hydroelectric facilities at existing dams or at a new or existing run-or-river projects. It appears that the project would meet the criteria established under this permit. The applicant should contact the Regulatory Branch (ATTN: NEDOD-R) of the New England Division for information about the Regional General Permit special and general conditions. The toll free number is 1-800-343-4789.

Due to the fact that the reservoir is subject to occasional inundation during flood events, it should be understood that the Corps will not be responsible for any damage to any equipment or facilities associated with the hydropower project that may result from reservoir regulation activities.

Subject to the above comments, the U.S. Army Corps of Engineers has no objection to the issuance of a license for the proposed project.

If you have any questions regarding this response, please feel free to contact Mr. Michael Keegan of my staff at (617) 647-8241.

Sincerely,

Joseph L. Ignazio
Chief, Planning Division

Copies Furnished:

Mr. Fred E. Springer, Director
Division of Project Management Branch
Office of Hydropower Licensing
Federal Energy Regulatory Commission
Room 208 RB
825 North Capitol Street, N.E.
Washington, DC 20426

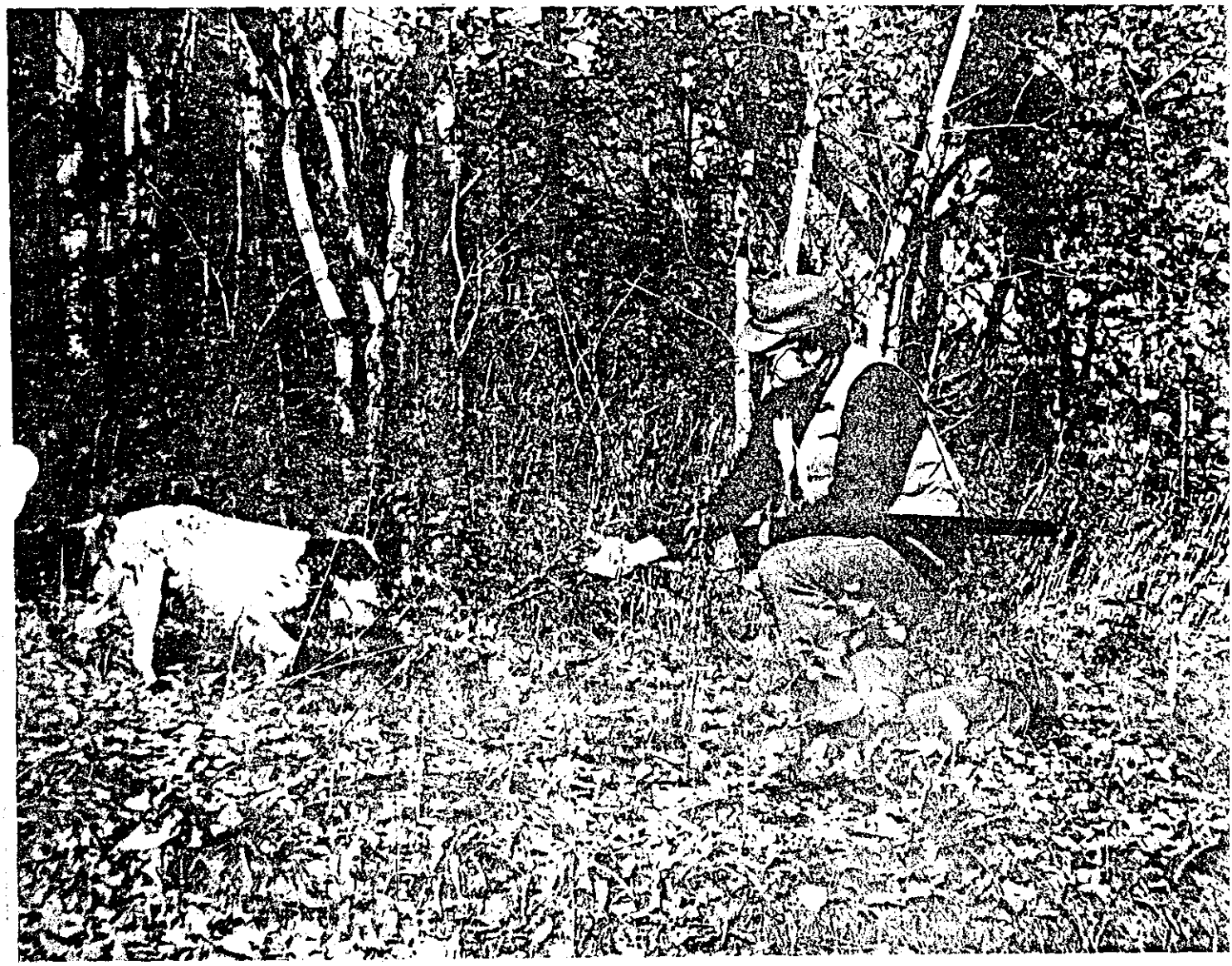
Commander
U.S. Army Corps of Engineers
ATTN: DAEN-CWH-Y
Washington, DC 20314

Mr. Richard Balagur
Box 68, R.F.D.
Thetford Center, VT 05075

cc: Mr. Keegan, 112N
Mr. Guptill, 112N
Mr. Finegan, 115N
Operations Div
Impact Analy Br
BMB Reading File
Plng Div Files

UNION VILLAGE DAM
THETFORD, VERMONT

PROJECT PLAN
FOR RECREATION RESOURCES DEVELOPMENT



DESIGN MEMORANDUM

MARCH 19

DEPARTMENT OF THE ARM
NEW ENGLAND DIVISIC
CORPS OF ENGINEEF
WALTHAM, MASSACHUSET

UNION VILLAGE DAM

EAST THETFORD, VERMONT

FOREST MANAGEMENT PLAN

MASTER PLAN APPENDIX B

AND

FISH AND WILDLIFE MANAGEMENT PLAN

MASTER PLAN APPENDIX D

NEW ENGLAND DIVISION, CORPS OF ENGINEERS
OPERATIONS DIVISION, 424 TRAPELO ROAD
WALTHAM, MASSACHUSETTS 02254

March 1982

VERMONT
Nondestructive Testing

RADIOGRAPHY
ULTRASONICS
EDDY CURRENT
MAGNETIC PARTICLE
DYE PENETRANT

CERTIFICATION OF PCB ANALYSIS

Central Vermont Public Service
ATTN: Matt McCoy
77 Grove Street
Rutland, VT 05701

Date: July 29, 1991
PO#: 78523B
Project: PCB Analysis

LAB#	SAMPLE ID	SERIAL NUMBER	PCB CONCENTRATION & ARCLOR
120601	91121	F891122-64Y GU	<1 PPM
120602	91122	KB13914	<1 PPM
120603	91123	69AJ839 UNION VILLAGE	<1 PPM
120604	91124	69AJ2275 UNION VILLAGE	<1 PPM
120605	91125	69AJ2276 UNION VILAGE	<1 PPM

The above tests were performed in accordance with applicable methods from the latest EPA and ASTM standards.

Sincerely,

Thomas Hamell
THOMAS HAMELL

CENED-ED-GL-E

Condike/ja/928-4238

MEMORANDUM FOR Director of Operations,
ATTN: Mr. Bruce R. Williams, (CENED-OD-P)

SUBJECT: Transmittal of Analytical Data Report for Union Village Manhole (6/29/92)

1. Enclosed is the Analytical Data Report for the above project. A preliminary copy of this report was sent on 23 July 1992.

2. If you have any questions concerning this report, please direct them to call Mr. Brian Condike at 508-928-4238.

Enclosure

RICHARD D. REARDON
Director of Engineering

CF:
Mr. Mark D. Rosenthal - N. Hartland Lake (preliminary only)
Mr. Forrest Knowles - 142 (w/encl(unbound copy))
NED Lab - 142 (wo/encl)
GED - 117S (wo/encl)
Env. Lab (wo/encl)
Engr Dir Files - 112S (wo/encl)

ADVANCE COPY

#1561995	2.30	Otter Brook Quarters
#1559268	2.20	Mansfield, Gate House
#1562715	2.20	Union Village Utility Bldg
#1562697	2.10	Ball Mountain Gatehouse
#1559269	2.10	Black Rock, Utility Bldg
#1562720	2.10	East Brimfield, Control Tower
#1559255	2.10	Surry Gatehouse
#1562724	2.10	Westville, Gallery #2
#1562049	2.00	Birch Hill, Old Quarters Basement
#1562048	2.00	Knightville, Lee House 1st Level
#1562676	2.00	Knightville, Utility Bldg
#1562723	2.00	North Hartland Gatehouse
#1562708	2.00	Tully, Gatehouse
#1559265	2.00	Union Village Duplicate Gatehouse
#1562726	1.90	Westville, Duplicate, Control Tower
#1562658	1.80	Hodges, Control Tower
#1562673	1.80	Otter Brook Utility Bldg
#1559288	1.80	Westville, Control Tower
#1561989	1.70	Buffumville Living Quarters Basement
#1561994	1.70	East Brimfield, Quarters Basement
#1562058	1.60	Ball Mountain Quarters Basement
#1562010	1.60	Everett, Bottom of Gate House
#1562023	1.60	Hopkinton, Working level of Gate House
#1559293	1.60	Littleville, Utility Bldg
#1562701	1.60	Union Village Gatehouse
#1562083	1.50	Hop Brook, Control Tower
#1559295	1.50	Littleville, Water Supply Tower #2
#1562076	1.50	MacDowell, Basement of Utility Bldg
#1559290	1.40	Mansfield, Living Quarters
#1562707	1.30	Barre, Gatehouse #1
#1562057	1.30	Blackwater Old Storage Building
#1559277	1.30	Tully, Utility Bldg #2
#1562028	1.20	Barre, Duplicate of Quarters #1
#1562067	1.20	Colebrook, Control Tower
#1562060	1.20	Westville, Utility Bldg
#1562681	1.10	Barre, Quarters #2
#1562670	1.10	Birch Hill, Gatehouse #1
#1562053	1.10	Hopkinton, Basement of Operator's Quarters
#1562699	1.10	Townshend Utility Bldg
#1562713	1.00	Barre, Gatehouse #2
#1562074	1.00	Blackwater Utility Bldg
#1561996	1.00	Hopkinton, Utility Bldg
#1562685	1.00	Littleville, Duplicate Flood Control Tower
#1562687	1.00	Littleville, Flood Control Tower #2
#1562056	1.00	MacDowell, Working Level of Gate House
#1562071	1.00	Thomaston, Utility Bldg
#1562664	0.90	Birch Hill, Gatehouse #2
#1562718	0.90	Buffumville, Living Quarters Duplicate
#1562059	0.90	Colebrook, Utility Bldg